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When Winter Comes

Fleets of Walter Snow Plow Tractors are used by motor bus companies such as Fifth Avenue Coach Company, Chicago Motor Bus Company, Detroit Motor Bus Company, Peoples Motor Bus Company of St. Louis, Pittsburgh Street Railways, Philadelphia Rapid Transit and others. Reliability, power and economy are required in their equipment. Walter Tractors have heavy duty Bus type Waukesha "Ricardo Head" motors.

You should know more about them. Send for 'Six Cylinder" Motor Bulletin explaining advantages of the "Ricardo Head," their "Girder Type" crankcase, "Fresh Oil" lubricating system and the "Dynamic Thermostat."

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Eastern Sales Office

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New York City

AUTOMOTIVE INDUSTRIES

VOLUME 54

Philadelphia, Thursday, February 18, 1926

NUMBER 7



The 1926 Statistical Issue

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Our Industry Today

By Norman G. Shidle

New Cars Sold and Old Cars Scrapped—1925

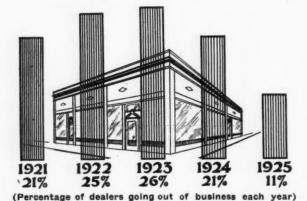




·Old Cars Scrapped

Although new cars still far outnumber scrapped cars the immense gains made by the latter during 1925 indicate that the time is not far distant when the replacement market alone will be nearly equivalent to the present new car market.

Mortality Among Car Dealers

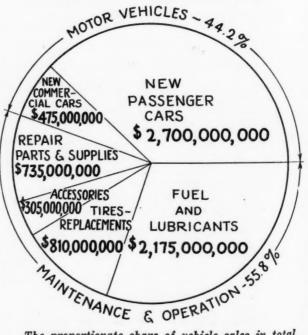


Dealer mortality has decreased rapidly during the past two years. A considerable part of the decrease is due to constructive dealer relations work by manufacturers. HE best days of the automotive industry lie ahead. Greater stability exists in production, merchandising methods, dealer relations and financial structure than ever before. Serious problems remain to be solved, but the experience and judgement available for meeting them is greater in quantity and quality than in any past time.

These general facts are borne out by detailed examination of the figures about the growth of the industry and the specifications of its products. But a few figures, summarized in chart form serve to visualize quickly these trends which are emphasized more strongly by detailed analysis.

Last year over a million and a half automobiles went to the scrap heap. The former owners of practically every one of those cars will be in the market for a new or used vehicle in 1926. And every year from now on a greater number of cars will be scrapped. That means that every year a larger proportion of the automobile market will be assured before the year starts—that greater stability of production will exist in the future than in the past.

Estimated Retail Sales of Automotive Products for 1926



The proportionate share of vehicle sales in total automotive business increased slightly last year, but sales of other units still makes up well over half the total. Car dealers are merchants of all automotive products, and not just car salesmen.

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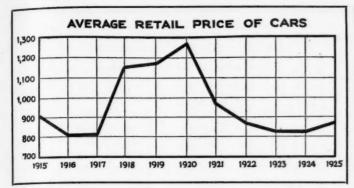
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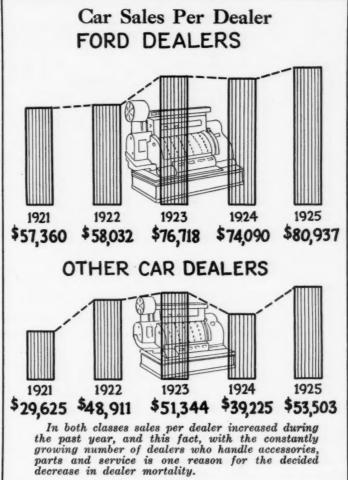
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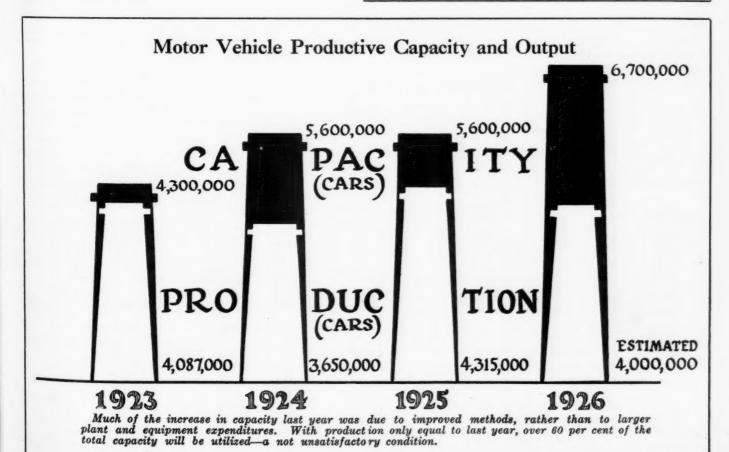


Fewer dealers went out of business last year than in any twelve-month period since accurate statistics on this subject have been compiled. Dealer mortality in 1925 was only about 11 per cent as against nearly twice that percentage only one year previous. Greater stability in the retail field is clearly indicated.

More and more dealers are coming to look upon the sales of parts and accessories as a profitable and regular part of their sales function. Sale of supplies for the maintenance and operation of motor vehicles comprised nearly 59 per cent of the total retail sales of automotive products last year. This percentage has been growing for several years past. With profits from parts and accessories to balance off dips in the car sales curve, the dealer has more chance of permanence and stability than he had a few years back. This point is emphasized by the fact that car sales per dealer (other than Ford) jumped to \$53,503 in 1925, the highest point since before 1921.

The average retail price of cars increased slightly last year due to the huge increase in the proportion of closed cars and the relatively large sale of cars in other than the lowest price class.





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Passenger Car Production

(In United States and Canada)

Compiled by N. A. C. C.

	Computed by 14	. 21. 0. 0.
	Number	Wholesale Value
1912	356,000	\$335,000,000
1913	461,500	399,902,000
1914	543,679	413,859,379
1915	818,618	565,978,950
1916	1,525,578	921,378,000
1917	1,740,792	1,053,505,781
1918	926,388	801,937,925
1919	1,657,652	1,461,785,925
1920	1,883,158	1,809,170,963
1921	1,514,000	1,093,918,000
1922	2,406,396	1,567,003,041
1923	3,694,237	2,276,399,270
1924	3,243,285	2,011,038,288
1925	3,817,638*	2,480,000,000
	-,,	, , , , , , , , , , , , , , , , , , , ,

* 3,678,327 produced in United States and 139,311 in Canada.

Motor Truck Production

(In United States and Canada)

Compiled by N. A. C. C.

	Number	Value
1912	22,000	\$43,000,000
1913	23,500	44,000,000
1914	25,375	45,098,464
1915	74,000	125,800,000
1916	92,130	166,650,273
1917	128,157	220,982,668
1918	227,250	434,168,992
1919	316,364	423,326,621
1920	322,039	423,756,715
1921	147,550	166,082,000
1922	252,668	222,635,324
1923	392,760	311,144,434
1924	374,317	317,027,716
1925	496,998*	440,000,000

* 474,923 produced in United States and 22,075 in Canada.

Closed Car Output 61.5% of 1925 Total

By K. W. Stillman

DURING the record automotive production year of 1925, closed car production exceeded that of open cars for the first time. Closed car output was greater than that of open cars by 873,570 units and represented 61.5 per cent of the total. Average retail price of cars advanced from \$824 in 1924 to \$870. Truck production showed greater percentage gains than cars while average retail price of trucks also advanced slightly. Motorcycle production was a few thousand greater than during 1924.

The 1925 domestic output (including Canada) of major automotive units was:

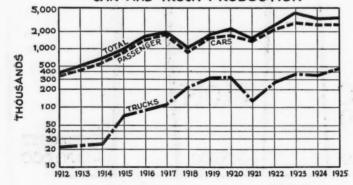
Passen	ger ca	ars											. 3	,817,638
Trucks	(incl	ıdi	ng	1	bu	S	es	1)	÷					496,998
Buses	(appro	xi	ma	t	e)									17,500
Motore	ycles													45,000
Tires								-						000 000

Although output was relatively low at the beginning of the year, April production exceeded the April, 1924, figure and every month after that with the single exception of August registered a big increase over the same month of the previous year. The result was a total production 18.5 per cent greater than in 1924.

Truck production, with an increase of 33 per cent, showed a larger gain over 1924 than did any other automotive product. Passenger car production increased 17.7 per cent over that of the previous year. No accurate data are available regarding the number of buses produced but an estimate of 17,500 is probably about right. This type of vehicle will undoubtedly become a more important factor in automotive production in the future.

Motorcycle production is estimated to be slightly higher than in 1924. The reason for this is probably due almost entirely to improving export and police markets, since 1926

CAR AND TRUCK PRODUCTION



Truck production increased at a slightly more rapid rate than passenger cars as the relative slope of the lines depicting production of the two units in the above chart indicates

Open and Closed Car Production

_			
Year -	Open	Closed	% Closed
1919	1,496,652	161,000	10.3
1920	1,563,022	320,136	17.0
1921	1,179,000	335,000	22.1
1922	1,691,368	715,028	30.0
1923	2,434,360	1,259,877	34.0
1924	1,845,803	1,397,482	43.0
1925	1,472,034	2,345,604	61.5

Production of Closed Cars

 % applies	to total Under \$1000 9%	\$1000 to \$2000 8%	\$2000 to \$3000 24%	over \$3000 27%
1920	16	12	22	43
1921	21	18	36	41
1922	23.8	38.8	78.8	77.1
1923	29.3	45.8	75.2	90.6
1924	31.8	70.7	76.9	90.0
1925	54.2	80.3	87.0	89.6

registration figures show that the number of motorcycles in civilian operation in this country continues to decrease. In many foreign countries motorcycles, especially American built machines, are very popular and consequently this section of the industry has been able to retain its former position in the face of decreasing domes-

During the five-year period

tic demand.

from 1920 to 1924 inclusive nearly 53 per cent of the American motorcycle production was exported. About 49 per cent of the 1925 production was destined for foreign markets.

The average increase in the retail price of cars, from \$824 in 1924 to \$870 in 1925, represented a gain of 5.6 per cent. This is probably due not only to the greater proportion of closed cars and to the marked decrease this year in the percentage of Ford production to the total,

Number and Percentage of Passenger Car Production by Years and Price Classes

(In United States and Canada)
(Based on actual sales price of model)

	Under \$1,000	Per Cent	\$1,000-\$2,000	Per Cent	\$2,000-\$3,000	Per Cent	\$3,000 and 0	ver Per Cent
Years	Number	of Total	Number	of Total	Number	of Total	Number	of Total
1912	155,000	43.8	169,800	47.7	10,300	2.9	19,900	5.6
1913	289,400	62.7	131,500	28.5	23,100	5.0	17,500	3.8
1914	339,800	62.5	160,400	29.5	29,900	5.5	13,600	2.5
1915	591,900	72.3	199,700	24.4	18,000	2.2	9,000	1.1
1916	1,214,300	81.3	231,500	15.5	35,800	2.4	11,900	.8
1917	1,389,200	79.8	304,600	17.5	26,100	1.5	20,900	1.2
1918	663,300	71.6	224,200	24.2	31,500	3.4	7,400	.8
1919	976,400	58.9	578,500	34.9	69,600	4.2	33,200	2.0
1920	1,118,600	59.4	619,600	32.9	81,000	4.3	64,000	3.4
1921	1,044,700	69.0	352,800	23.3	81,700	5.4	34,800	2.3
1922	1,780,700	74.0	524,600	21.8	60,200	2.5	40,900	1.7
1923	2,967,500	81.6	596,400	16.4	43,600	1.2	29,100	.8
1924	2,390,813	73.3	786,065	24.1	42,402	1.3	42,402	1.3
1925	2,795,242	73.2	891,724	23.4	70,723	1.8	59,949	1.6

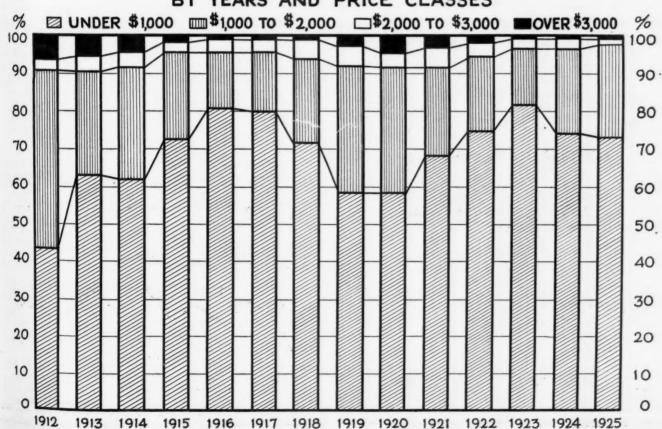
but also to the great increase of cars selling for around \$ 1 0 0 0. Extension of instalment selling no doubt, has also tended to increase the price which prospective buyers could or would pay for a car, thus causing increased sales for cars in higher price classes.

This is borne out to some extent by the accompanying table showing comparative number and per

cent of production by price classes. Cars selling for less than \$1000 have decreased slightly in relation to the total, as have cars selling in the next price class, while cars retailing at over \$2000 have gained.

The average retail price of trucks also has increased slightly over the figure for last year. Some of the same influences are at work here as in the passenger car field while the addition of an increasing number of bus sales—usually higher priced than trucks of equal capacity—

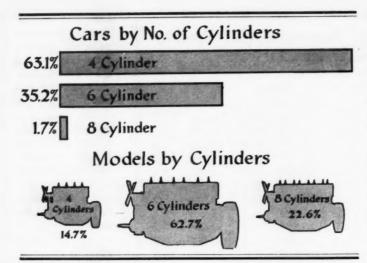
PERCENTAGE OF TOTAL PASSENGER CAR PRODUCTION BY YEARS AND PRICE CLASSES



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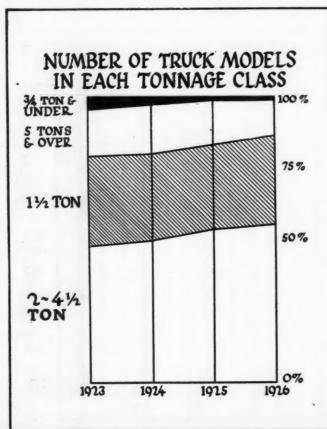


probably has had some effect on the average price. Best available figures indicate that 61.5 per cent of all cars built during 1925 were closed. This does not indicate accurately the large proportion of closed cars that was made by most manufacturers, since two large producers who build about 59 per cent of the total cars produced divided their production about equally between open and closed models. Eliminating their production it is found that over 79 per cent of cars made by all other manufacturers were closed.

A year or so ago this increase in number of closed cars built might be regarded as the sole cause for the increase in average retail price, and it still has some effect without doubt. Manufacturers have been so successful in obtaining production economies in making closed cars, however, that in many cases there is only a very small price differential between the two types.

Six-Cylinder Increase Rapid

Of the total number of car models, 63 per cent are six-



cylinder, 22 per cent are eight-cylinder and 15 per cent are four-cylinder. As might be expected, four-cylinder cars make up 63 per cent of the total number produced while six-cylinder models account for 35 per cent and eight-cylinder cars 2 per cent.

Trucks of one ton capacity continue to increase in favor and their production, in relation to total production, gained 2.3 per cent over 1924 figures. All other sizes showed a percentage decrease in relation to total output.

The accompanying chart showing monthly production gives an interesting picture of the effect of seasonal variation upon automotive production. During the three spring months production reaches its peak and then declines steadily until a slight reaction is experienced in September and October. This upturn is followed by another decline in the closing months of the year while the new year begins with increasing production culminating in a new peak during the spring.

Stability Increasing

Elimination of a major part of these variations would be a very important contribution towards more economical production. Changes of 50 or 60 per cent in the production of two consecutive months certainly is not conducive to fullest use of manufacturing facilities and at the present time probably a good portion of the excess productive capacity has been brought into being because of the spring peak.

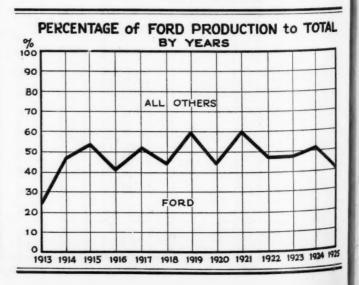
Car and truck production for 1925 in countries outside the United States for which any data are available at this time is as follows:

France																	177,000
Great	B	ri	t	a	iı	n		۰				۰					168,000
Canada											,						161,386
German	ny																30,000
Czecho	sle	0	V	a	k	i	a										5,500

Total passenger car and truck production in Great Britain during 1925 was 168,000 or 34 per cent greater than that of 1924. Passenger cars increased from 97,000 to 131,000 or 35 per cent, while trucks increased from 28,000 to 37,000, or 32 per cent.

These figures are estimates, since no accurate production statistics are available, only a few manufacturers releasing any details concerning their outputs. Based upon the registration statistics issued by the Ministry of Transport and upon the Board of Trade figures relating to exports and imports, the present data are as nearly correct as it is possible to obtain. Also these figures relate to the year ending August 31, 1925, since this is the latest date for which registration data were available.

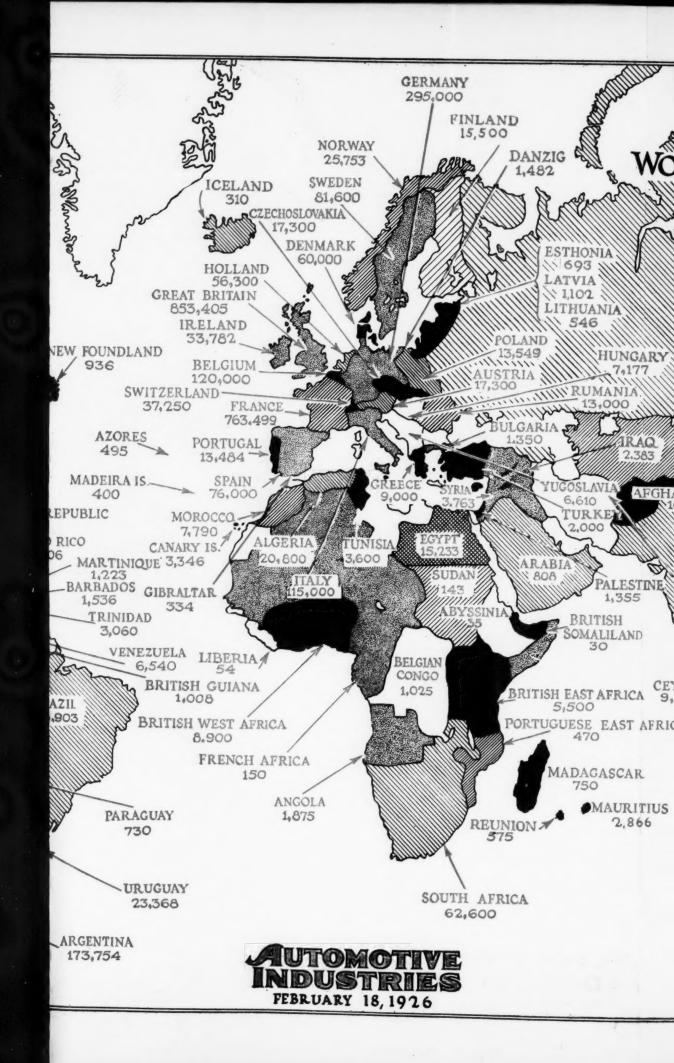
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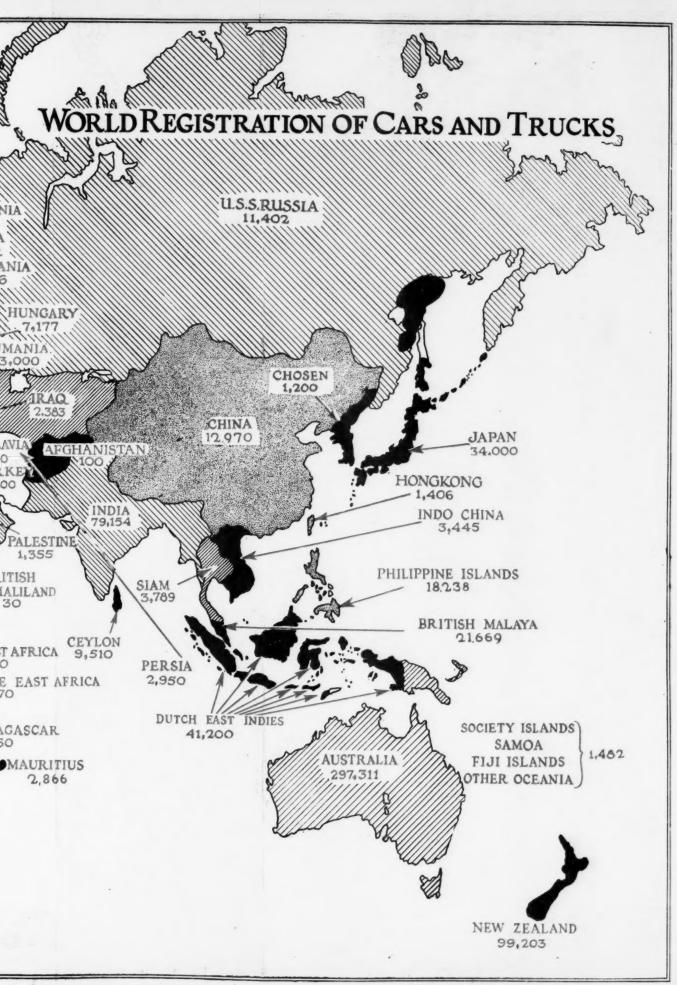


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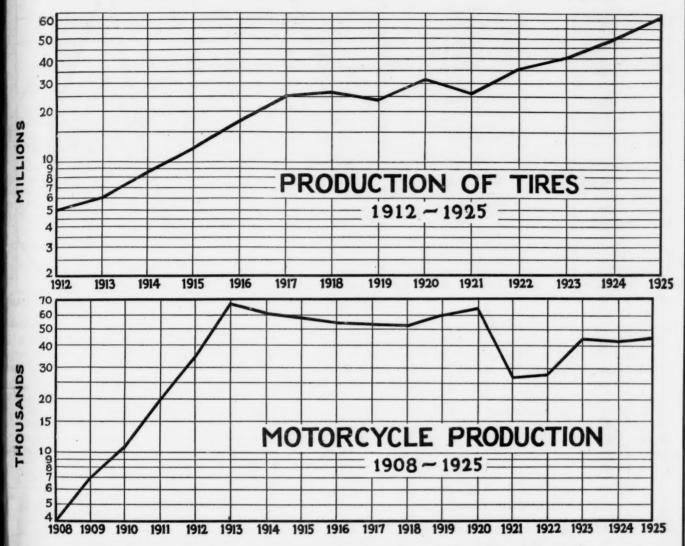
ICELAND ALASKA 310 Dear CZECHOSLO 17,30 DEN HOLLAND 56,300 GREAT BRITAIN 853,405 DOMINION OF CANADA 719,718 IRELAND 33,782 EW FOUNDLAND 936 BELGIUM 120,000 SWITZERLAND. 37,250 FRANCE 763,499 AZORES PORTUGAL UNITED STATES 495 HAWAII 13,484 19,843,936 HAITI 25,300 MADEIRA IS. SPAIN 1,450 76,000 DOMINICAN REPUBLIC MOROCCO CUBA 3,015 7,790 4 GUATEMALA 35,000 PORTO RICO 993 CANARY IS: 12,906 MARTINIQUE 3,346 1,223 BARBADOS BRITISH HONDURAS GIBRALTAR MEXICO 1,536 334 41,820 HONDURAS TRINIDAD 420 3,060 PANAMA SALVADOR VENEZUELA LIBERIA 3,407 JAMAICA 1,080 6,540 4,100 NICARAGUA BRITISH GUIANA COLOMBIA 405 1,008 BRAZIL 3,579 68,903 BRITISH WEST AFRICA ECUADOR' 8.900 1,160 FRENCH AFRICA PERU 150 7,500 ANGOI PARAGUAY 1,875 BOLIVIA 730 1,000 1926 URUGUAY TOTAL 23,368 CHILE 24,452,267 13,714 ARGENTINA Outside United States 4,608,331 173,754 (See pages 255-258) FEBRU



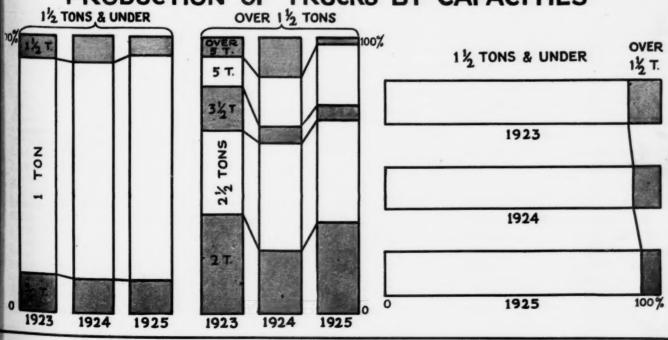




Output of Trucks, Tires and Motorcycles



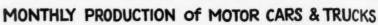
PRODUCTION OF TRUCKS BY CAPACITIES

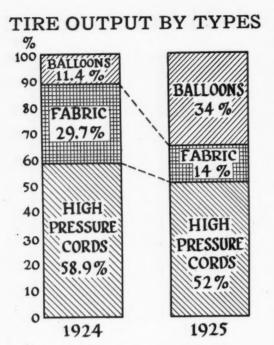


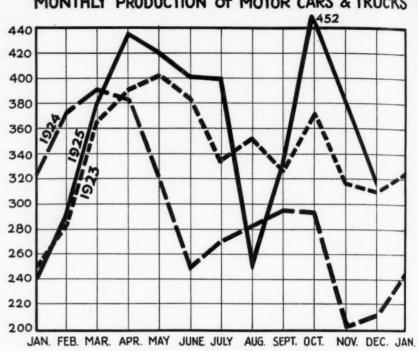
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It is not difficult to account for the British passenger car increase when it is realized that Morris alone increased his output from 27,500 in 1924 to 48,700 in 1925, according to an announcement made last September, also relating to the year ending August 31.

British motorcycle production in 1925, was approximately 170,000 as compared with 132,000 in 1924.

During the year 1925 it is estimated that France pro-

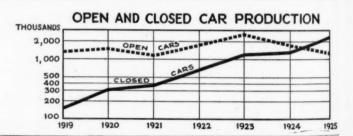
duced 207,000 automobiles, of which 145,000 were absorbed by the home market and 61,450 were exported. This constitutes the high water mark of French automobile production. In the above figures some 30,000 Fords are considered as French products, although the cars are only assembled in that country from imported parts.

No returns are made by French automobile manufacturers to any central body regarding production.

Motor Vehicle Production—Great Britain and France

(Exclusive of Ford Assemblies)

1922 Great Britain . . 63,000 75,000 125,000 168,000 65,000 138,000 155,000



Number and Per Cent of Truck Production by Capacities

(In United States and Canada)

		(Bas	sed on N. A. C	. C. Figures)			
	1922	Per cent	11	923	192		193	
-	Number	of total	Number	Per cent of total	Number	Per cent of total	Number	Per cent of total
3/4 ton or less	62,194	24.5	44,198	11.3	53,111	14.2	58,494	11.8
1 ton to 11/2	147,796	58.5	275,343	70.1	270,038	72.1	370,953	74.5
$1\frac{1}{2}$ ton to 2	7,134	2.8	30,249	7.7	18,480	4.9	27,796	5.6
2 ton to $2\frac{1}{2}$	13,830	5.5	14,998	3.8	10,502	2.8	10,853	2.2
$2\frac{1}{2}$ ton to $3\frac{1}{2}$	11,247	4.5	12,519	3.2	9,805	2.6	9,895	2.0
$3\frac{1}{2}$ ton to 5	3,319	1.3	6,761	1.7	2,105	.6	1,976	0.4
5 to 51/2	5,718	2.3	4,611	1.2	6,948	1.9	7,871	1.6
Over 5½ ton	1,430	.6	4,081	1.0	3,328	.9	882	0.2
Miscellaneous							8,278	1.7
	252,668	100.0	392,760	100.0	374,317	100.0	496,998	100.0

rted. iutoords

4,608,331 Cars and Trucks Now in Use Outside U.S.

Gain of 26.8 per cent over last year. Total in world now 24,452,267, representing 14.5 per cent increase over 1925.

N January 1, 1926 there were in operation throughout the world exclusive of the United States 3,560,209 passenger cars, 1,048,122 trucks—totaling 4,608,331—and 1,319,253 motorcycles. This is a gain of 974,059 cars and trucks over the number in operation in 1924 or a percentage increase of 26.8, which may be compared with the gain of 1924 over 1923 registrations of slightly less than 21 per cent. Motorcycles gained 44 per

cent over 1924 registrations, the actual increase being 402,916.

Including United States' registrations, the world total now is 24,452,267 cars and trucks, a gain of 14.5 per cent over last year.

Every section of the world contributed to this increase. In rates of increase Oceania leads with a gain of 46.5 per cent. Africa is next with a 37 per cent increase and

WORLD REGISTRATION OF CARS and TRUCKS

(Alphabetically listed)

Abyssinia	35	Eritrea	70	Nyasaland	505
Afghanistan	100	Esthonia	693	Other British Oceania	75
Alaska	1.138	Faroe Islands	11	Other British West	
Algeria	20,800	Fiji Islands	394	Indies	700
Angola	1,875	Finland	15,500	Palestine	1.355
Arabia (incl. Aden)	808	France	763,499	Panama	3,407
Argentina	173,754	French Equatorial	. 50,200	Papua	122
Australia	297,311	Africa	150	Paraguay	730
Austria	17,300	French Indo China	3,445	Persia	2,950
Azores	495	Germany	295,000	Peru	7,500
Bahamas	710	Gibraltar	334	Philippine Islands	18,238
Barbados	1.536	Gilbert & Ellice Islands	2	Poland	13,549
Poloion Congo	-,	Great Britain	853,405	Porto Rico	12,906
Belgian Congo	1,025				
Belgium	120,000	Greece	9,000	Portugal	13,484
Bolivia	1,000	Grenada	277	Portuguese East Africa	
Brazil	68,903	Guadeloupe	650	Reunion	578
British East Africa	5,500	Guatemala	993	Rhodesia	1,130
British Guiana	1,008	Haiti	1,450	Rumania	13,000
British Honduras	115	Hawaii	25,300	Russia	11,402
British Malaya	21,669	Holland	56,300	St. Lucia	71
British North'n. Borneo	62	Honduras	420	St. Pierre & Miquelon	20
British Somaliland	30	Hongkong	1,406	Salvador	1,080
British West Africa	8,900	Hungary	7.177	Samoa	187
Bulgaria	1,350	Iceland	310	Sevchelles Islands	1
Canada	719,718	India	79,154	Siam	3,789
Canary Islands	3,346	Iraq.	2,383	Society Islands	33:
Ceylon	9,510	Irish Free State	33,782	Solomon Islands	
Chile	13.714	Italy	115,000	South Africa	62,600
China	12,970	Jamaica	4,100	Spain	76,000
Chosen		Japan	34,000	Spanish Morocco	68
Colombia	1,200			Sudan	148
Cook Jalanda	3,579	Latvia	1,102		
Cook Islands	69	Liberia	54	Sweden	81,600
Costa Rica	563	Lithuania	546	Switzerland	37,250
Cuba	35,000	Madagascar	750	Syria	3,673
Cyprus	741	Madeira Islands	400	Tonga	114
Czechoslovakia	17,300	Malta	869	Trinidad	3,060
Danzig Free City	1,482	Martinique	1,223	Tunisia	3,600
Denmark	60,000	Mauritius	2,866	Turkey	2,000
Dominica	27	Mexico	41,820	United States	19,843,936
Dominican Republic	3,015	Morocco	7,790	Uruguay	23,368
Dutch East Indies	41,200	Newfoundland	936	Venezuela	6,540
Dutch Guiana	120	Nicaragua	405	Western Samoa	186
Dutch West Indies	577	New Zealand	99,203	Yugoslavia	6,610
Ecuador	1.160	Northern Ireland	19,455		0,010
Egypt	15,233	Norway	25,753	Total	24 452 267
Gold	10,600	2102 H tay	20,:00		-2,200,000

then comes Asia registering a gain of 30.7 per cent. Europe had a 25 per cent increase. The Americas, including United States' registrations, showed the smallest percentage gain with 12.1 per cent. With United States and Canadian figures omitted, however, the remainder of North and South America had an aggregate gain of 44.6 per cent, second only to Oceania-and the latter, as will be explained later, represents statistical gains to some extent rather than actual increases.

Survey Gains in Accuracy

These are the salient points of the 1926 world motor vehicle census which has been prepared jointly by Automotive Industries, The American Automobile (Overseas Edition) and El Automovil Americano. The present census has been compiled from hundreds of official and trade reports covering every part of the world and is without any doubt far superior in accuracy and completeness to any previous census made.

This year it has been posible, because of more accurate and complete returns, to segregate car and truck figures in all except one or two territories. Lack of this data

America Passes 20,000,000 Mark

Cars 763

Total Cars and Trucks

1,138

Countries

Alaska

ures to learn if.	as seems probable, increases in truck
registrations were	e more rapid than those in the passenger
	her than United States and Canada, and

for 1925 prevents exact comparisons with last week

particularly in Europe, trucks are proportionately much more numerous than they are here. The ratios of cars to trucks in the various continents are:

Africa				,												5.7	to	1
Asia .													٠		٠	4.3	to	1
Europe																2.7	to	1
Oceania			9									۰				6.4	to	1
N. and	S		A	I	n	e	r	ic	a	L						7.1	to	1
America	ì,	e	x	C	e	pi	t	τ	J.	-	S					6.2	to	1

These figures suggest the vast market still to be opened up for passenger cars in foreign countries as their peoples gradually are sold the idea that the passenger car has economic as well as pleasure value. In many countries, Italy for example, the middle classes are just beginning to realize that automobiles are as enjoyable and profitable for them as for the rich. Lacking the phenominal prosperity of the American people, however, foreign countries cannot be expected to absorb cars in such proportions as here, but there is strong evidence that increasing use of automobiles as family conveyances will greatly extend their use soon in other parts of the world.

That good roads, prosperity and automobiles are linked together in an endless chain is again evidenced by the in many countries, notably, Australia, h Africa, partically all sections of Latin British Malaya, the Dutch East Indies. ind Japan.

Increased use of cars brought about extensive highway work in these countries and the extension of good roads increased the use of cars, as can be seen from the registration data presented here; and both items were factors in the increased prosperity with which nearly the entire world has been blessed during the past year.

North and South America

OTOR vehicle registrations of the Western Hemis-M phere for 1925 totaled 20,981,229, an increase of 2,330,116 or 12.5 per cent over that of 1924. While the actual increase was greater than that made by any other continent the percentage increase was the smallest and represents practically the registration increase in the United States.

When registrations for the United States and Canada are taken out of the totals a very different picture is presented, for the rate of increase of all other American countries was 44.6 per cent, a truly remarkable gain. At the present time there are registered outside of the United States and Canada 417,575 vehicles, an increase of 129, 458 over the 1924 figures, which did not, by the way include the registrations for a few of the smaller island of the West Indies which have been obtained this year for the first time.

Argentina follows the United States and Canada in the number of motor vehicles in operation, then come Brazil, Mexico, Cuba and Uruguay. Brazil gained 54 per cent, Argentina 45 per cent and Mexico 20 per cent.

Europe

UROPEAN motor vehicle registrations for 1925 total 2,668,558, an increase of 553,337 or 26.2 per cent over the previous year's figures. This percentage increase is only slightly more than that registered last year of 2 per cent.

Comparative figures for Belgium indicate an increase of

Argentina	173,754	144,920	40,040	0,240	progress last year
Bahamas	710	506	204	12	New Zealand, South
Barbados	1,536	1,267	269	90	
Bolivia	1,000	850	150	12	America, Spain, Br
Brazil	68,903	56,640	12,263	1,200	Equatorial Arica ar

Trucks 375

Motor-

cycles

9 940

Argentina	173,754	144,926	28,828	3,240
Bahamas	710	506	204	12
Barbados	1,536	1,267	269	90
Bolivia	1,000	850	150	12
Brazil	68,903	56,640	12,263	1,200
British Guiana	1,008	897	111	72
British Hon-				
duras	115	87	28	6
Canada	719,718	644,725	74,993	7,876
Chile	13,714	10,030	3,684	140
Colombia	3,579	2,634	945	75
Costa Rica	563	485	78	50
Cuba	35,000	26,500	8,500	450
Dominica	27	21	6	1
Dominican Re-				
public	3,015	2,600	415	100
Dutch Guiana.	120	110	10	20
Dutch West				
Indies	577	494	83	15
Ecuador	1,160	860	300	10
Grenada	277	241	36	20
Guadeloupe	650	611	39	25
Guatemala	993	925	68	292
Haiti	1,450	1,300	150	15
Honduras	420	331	89	17
Jamaica	4,100	3,250	850	300
Martinique	1,223	1,030	193	69
Mexico	41,820	35,310	6,510	685
Newfoundland.	936	811	125	165
Nicaragua	405	350	55	
Other British				
West Indies.	700	500	200	50
Panama	3,407	3,028	379	245
Paraguay	730	520	210	5
Peru	7,500	5,000	2,500	120
Porto Rico	12,906		2,816	240
St. Lucia	. 71	46	25	17
St. Pierre and				
Miquelon	20		20	
Salvador	1,080		80	50
Trinidad	3,060	2,430	630	448
United States 1				140,415
Uruguay	23,368	19,788	3,580	370
Venezuela		5,500	1,040	200

.20,981,229 18,303,813

2,677,416

157,123

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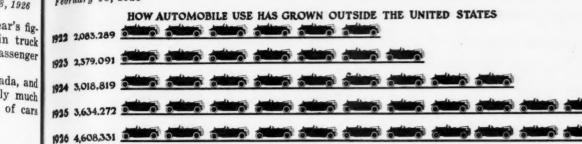
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8, 1926



Nearly 2.	50,000	Vehicles	in Asia	ı
Countries	Total Car and Truck		Trucks	Motor- cycles
Afghanistan	100	50	50	
Arabia, including				
Aden	808	665	143	193
British Malaya	21,669	17,390	4,279	4,107
British North	,	,	•	
Borneo	62	50	12	10
Cevlon	9,510	6,620	2,890	2,561
China	12,970	10,623	2,347	693
Chosen	1,200	1.040	160	75
Cyprus	741	545	196	148
Dutch East Indies.	41,200	36,000	5,200	7,800
French Indo China.	3,445	2,878	567	
Hongkong	1,406	1.128	278	412
India	79,154	69,290	9.864	20,974
Iraq	2,383	2,313	70	
Japan	34,000	22,000	12,000	5,000
Palestine	1,355	1,200	155	100
Persia	2,950	2,500	450	330
Philippine Islands.	18,238	13,266	4.972	800
Siam	3,789	3,200	589	950
Syria	3,673	3,245	428	92
Tibet				1
Turkey	2,000	1,600	400	200
Total	240,653	195,603	45,050	44,446

85 per cent over the 1924 figures, but inasmuch as final returns have not been received from this country it is possible that this will be reduced. Germany made a gain of 37 per cent, France 33 per cent, Sweden 30 per cent and Great Britain 10 per cent.

The first five countries in order of the number of vehicles registered are: Great Britain, France, Germany, Belgium and Sweden.

As mentioned before, truck operation has developed proportionately faster than passenger cars in Europe so that the ratio of cars to trucks is much higher than on any other continent. The ratio this year remains about the same as it was last year—21/2 cars to each truck which may be compared with the ratio in the United States of nearly seven cars for each truck.

Increases were made in all European countries with the exception of Esthonia, Danzig and Russia. In the case of Esthonia and Russia there may not have been an actual decrease but only a statistical one due to overly optimistic estimates made last year.

Asia

N Asia during 1925 a total of 240,653 cars and trucks were in operation. This is an increase of 56,495 vehicles or 30.7 per cent over the number in use during

Last year Asia started on the same development program along automotive lines that had been begun in other continents one or two years previously. Although ham-

pered by a late start the progress shown during this first year in which conditions were favorable to automotive development indicate that Asia will very quickly assume an important place on the territorial maps of automotive manufacturers and distributors.

With 195,603 passenger cars and 45,050 trucks in operation it is apparent that compared with conditions in this country, motor vehicles are used more for utilitarian purposes than for pleasure since the ratio of cars to trucks is 4.8 to 1-nearly one-half that prevailing in the United States.

India leads in registrations and gained 24 per cent. Dutch East Indies is next in order followed by Japan, British Malayas and the Philippine Islands. Compared with the figures published last year Japan has gained 73 per cent during 1925, but the former figures have been questioned by the Japanese and it is quite possible that they were too low. British Malayas gained 41 per cent, Philippines 22 per cent and Dutch East Indies 14 per cent.

	2,668,558	Motor	V	ehicles	in	Europe
--	-----------	-------	---	---------	----	--------

Countries	Total Cars	Cars	Trucks	Motor- cycles
Austria	17,300	11,200	6,100	14,800
Azores	495	461	34	22
Belgium	120,000	108,000	12,000	55,000
Bulgaria	1,350	1,000	350	175
Czechoslovakia	17,300	12,300	5,000	9,000
Danzig Free	11,000	12,000	0,000	0,000
City	1,482	1,049	433	576
Denmark	60,000	48,000	12,000	18,000
Esthonia	693	273	420	250
Faroe Islands	11	1	10	
Finland	15,500	10,500	5,000	4,500
France	763,499	499,911	263,588	142,262
Germany	295,000	198,200	96,800	188,000
Gibraltar	334	298	36	42
Great Britain	853,405	621,298	232,107	548,330
Greece	9,000	5,000	4,000	200
Holland	56,300	40,500	15,800	40,600
Hungary	7,177	5,857	1,320	1,964
Iceland	310	139	171	25
Irish Free				
State	33,782	27,549	6,233	8,895
Italy	115,000	79,000	36,000	49,109
Latvia	1,102	648	454	200
Lithuania	546	454	92	225
Malta	869	685	184	328
Northern				
Ireland	19,455	15,056	4,399	6,131
Norway	25,753	19,290	6,463	7,228
Poland	13,549	10,458	3,091	2,300
Portugal	13,484	10,785	2,699	1,251
Rumania	13,000	9,500	3,500	800
U. S. S. Russia	11,402	5,792	5,610	
Spain	76,000	68,000	8,000	4,000
Sweden	81,600	60,300	21,300	23,000
Switzerland	37,250	28,750	8,500	1,600
Yugoslavia	6,610	4,500	2,110	500
Total	2,668,558	1,904,754	763,804	1,129,313

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African Registrations Gain 37%

Militan I	Total Cars			Motor-
	and Trucks	Cars 30	Trucks 5	cycles
Abyssinia			3,100	900
Algeria		17,700	625	165
Angola	1,875	1,250	400	
Belgian Congo	1,025	625	100 100 100	9.700
British East Africa		4,000	1,500	3,700
British West Africa		4,127	4,773	2,813
British Somaliland.	30	20	10	20
Canary Islands	3,346	2,382	964	84
Egypt	15,233	12,771	2,462	3,142
Eritrea	70	50	20	
French Equatorial				
Africa		60	90	30
Liberia	54	32	22	7
Madagascar	750	650	100	600
Madeira Islands		325	75	100
Mauritius		2,473	393	292
Morocco	7,790	5,615	2,175	793
Nyasaland	505	457	48	887
Portuguese East				
Africa		385	85	140
Reunion		525	50	
Rhodesia		1,050	80	300
Seychelles Islands		3		10
South Africa		58,000	4,600	23,000
Spanish Morocco.	,	681	2,000	
Sudan		110	33	33
Tunisia		3,200	400	
Total	138,531	116,521	22,010	37,016

Africa

N the continent of Africa a total of 138,531 cars and trucks were in operation during 1925. This is an increase of 37,380 or 36.9 per cent over the number registered in 1924. As was true on all the other continents the increase was general and practically every country contributed to it. South Africa leads in the number of vehicles registered while Algeria leads among the larger countries in percentage gains over the previous year.

Following South Africa in the number of cars and trucks come Algeria, with 42 per cent increase, Egypt which gained 51 per cent, British West Africa with a 25 per cent gain and Morocco with 39 per cent gain.

Road development had a very important influence on automotive business during the past year, particularly in some of the countries where cars and trucks have not been used very extensively in the past. Gains of over 100 per cent were made in some of these countries, due largely to the opening of roads. The ratio of cars to trucks on the continent is 5.3 to 1.

Summary Table of World Registrations

	OI IVIO	tor veri	CICS	
Countries	Total Cars and Trucks	Passenger Cars	Trucks	Motor- cycles
Africa	138,531	116,521	22,010	37,016
America .	.20,981,229	18,303,813	2,677,416	157,123
Asia	. 240,653	195,603	45,050	44,446
Europe	2,668,558	1,904,754	763,804	1,129,313
Oceania	423,296	356,875	66,421	91,770
Total	24,452,267	20,877,566	3,574,701	1,459,668

Oceania

MOTOR vehicle registrations for 1925 in Oceania totaled 423,296 cars and trucks, an increase of 134,160 or 46.5 per cent over 1924. Part of this increase is undoubtedly statistical in nature rather than actual due to the fact that previous to last year accurate registration figures were not available but estimates were made based on new car sales and their average life.

The average life was assumed to be about seven years but since the institution of Dominion registration in New Zealand early last year it has been discovered that cars are operated between nine and ten years, so that registration estimates based on a seven-year life were low, not only for this country but for other countries, such as Australia, in which operating conditions were similar.

Statistically, New Zealand gained 64 per cent, Australia 45 per cent and Hawaii 12 per cent. Although these figures may be high there is no doubt that Oceania absorbed a considerably larger share of the world automotive production than ever before and the coming year, according to all reports, should be just as good if not better.

Total cars and trucks now in operation in Oceania number nearly one-half million and this figure is almost sure to be passed by another year. New Zealand now has one automotive vehicle, counting motorcycles, for every 10.9 inhabitants. This figure is not far below the similar figure for the United States, and New Zealand is one of the foremost countries in this respect.

Oceania Registrations Increased 46%

	otal Cars d Trucks	Cars	Trucks	Motor- cycles
Australia	297,311	253,561	43,750	66,500
Cook Islands	69	44	25	4
Gilbert and Ellice				
Islands	2		2	
Fiji Islands	394	315	79	80
Hawaii	25,300	20,000	5,300	600
New Zealand	99,203	82,255	16,948	24,458
Other British				
Oceania	75	60	15	20
Papua	122	81	41	37
Samoa	187	104	83	20
Society Islands	331	275	56	35
Solomon Islands	2		2	
Tonga	114	64	50	5
Western Samoa	186	116	70	11
Total	423,296	356,875	66,421	91,770

In compiling these world registration figures much valuable aid has been received from Government statistics based on reports of foreign representatives of the State and Commerce Departments, from the Automotive Division of the Department of Commerce in particular, and from our own correspondents throughout the world.

We take this opportunity to acknowledge the efforts of our many collaborators which have made this, our fifth annual census of world motor vehicle registrations, more nearly complete and accurate than any published heretofore. ustries

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1926

Motor Vehicles in U. S. Increase 12.7% in 1925

Almost 20,000,000 vehicles now in use. One for every 5.7 persons in country.

PASSENGER cars, trucks and buses registered in the United States during 1925 totaled 19,843,936. This is a gain of 2,238,441 vehicles, or 12.7 per cent over those registered in 1924. These final figures differ very little from the preliminary data published in Automotive Industries on Jan. 14, 1926.

There is now one motor vehicle for every 5.7 persons in the country, as compared with 6.3 a year ago.

New York, California, Pennsylvania, Ohio and Illinois are the first five States in the number of vehicles registered, just as they were last year, with the exception that this year Ohio and Pennsylvania have changed places. As was true last year, over half of all the motor vehicles registered are in nine States, the percentage included in these nine leaders being 52. Adding Massachusetts to make the first ten, the percentage of the total found in them is 55.

New York First, Nevada Last

Rhode Island has promoted itself this year into the class of States having more than 100,000 vehicles registered, leaving only 11 States in which the number of vehicles can be expressed in five figures. New York has 8.13 per cent of all the motor vehicles in use, California has 7.24, while Nevada, the State with the smallest number of cars and trucks, has 0.11 per cent of the total.

Five States gained over 100,000 vehicles during 1925 and only eight States gained less than 10,000. Similar figures for 1924 were eight and nine.

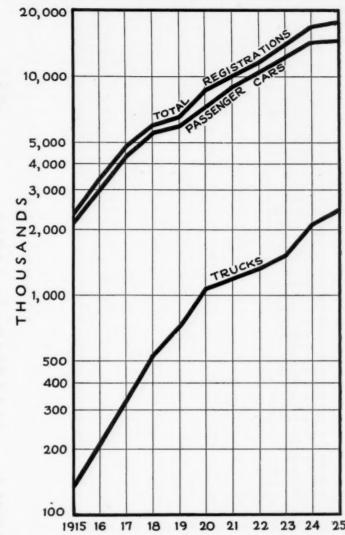
As has been true for several years, the Southern States show the highest percentage gain. Of the seven States which show gains of more than 20 per cent only one, North Dakota, is north of the Mason-Dixon line. Florida leads with a gain of 34.3 per cent with Mississippi a close second, with 31.8, followed by Arkansas, Oklahoma, North Dakota, Alabama and Tennessee, in all of which gains of over 20 per cent were made.

Comparative figures for several years past indicate that the shortage of new cars in the South is being filled and that sales in some Southern sections are approaching the basis of replacements and increased population to which many of the Northern States have almost reached.

Last year there were 14 States in which gains of over 20 per cent were registered, and all but three of these were in the South. Compared with this year's figures this shows that new car users are becoming a little harder to find.

Motorcycle registrations continue to decrease, having dropped from 154,902 in 1924 to 140,415 in 1925. As

GROWTH of MOTOR VEHICLE REGISTRATIONS



mentioned on another page this has not affected the motorcycle manufacturers as much as one might expect, since they have built up an excellent export business that is increasing steadily and which last year took well over half the domestic production. In addition, a large number of machines are being sold to police departments. These usually are not shown in the registration lists.

California again carries off the honors in the number of motor vehicles in ratio to the population, with a vehicle for every 2.8 persons in the State. Five more States joined the ranks of those which have a motor vehicle for every family. In 1924 there were 12 States in which the ratio was less than five to one, while this year the number has increased to 17.

In comparing motor vehicles with population it would appear to be slightly more logical to compare only passenger cars, since trucks and buses are only indirectly dependent upon the density of population for their existence. Even after commercial cars are eliminated from the figures there are still only 6.5 persons for every passenger car in operation. There is no question that when trucks and buses are included, there now is rubber-tired transportation for every American citizen, and at the rate passenger car registrations are increasing, it should not be many years before trucks

(Continued on page 262)

Motor Vehicle Registration Statistics

MIOTOI	V CITICIO	Regis	uation	Statis	outes	
State	Total	Passenger Cars	Trucks	Motor- cycles	Registration Fees	Gasoline Tax
Alabama	194,580	171,387	23,193	524	\$ 1,946,010	\$ 2,024,816
Arizona	68,029	58,948	9,081	359	402,404	860,000*
Arkansas	183,764	159,511	24,253	263	3,150,000	3,500,000
California	1,439,463	1,224,887	214,576	10,997	7,186,620	13,737,892
Colorado	226,118	207,263	18,855	1,832	1,453,721	1,953,784
Connecticut	248,474	211,057	37,417	4,034	4,399,218	1,694,418
Delaware	40,681	32,925	7,756	375	680,700	350,580
District of Columbia	93,612	80,190	50,038	1,344	171,218	890,000
	260,720	210,682	13,422	966	3,712,763	4,920,000*
Florida	244,871	214,201	30,670	994	3,010,885	4,081,297
Georgia	81,484	73,703	7,781	593	1,184,002	
Idaho	1,263,177	1,101,943	161,234	6,603	13,000,000	642,000*
Illinois	725,410	627,173		4,525		None
Indiana		611,068	98,237	2,289	4,649,663	7,514,181
Iowa	657,567		46,499	,	9,472,984	232,154
Kansas	457,033	409,968	47,065	1,434	4,500,000	2,682,133
Kentucky	260,754	234,280	26,474	691	3,732,676	2,560,779
Louisiana	207,000	176,000	31,000	500	3,343,049	2,340,410
Maine	140,134	113,583	26,551	1,265	2,160,066	1,264,533
Maryland	230,684	218,236	12,448	3,208	2,705,123	2,022,986
Massachusetts	654,338	563,858	90,480	10,333	9,268,654	None
Michigan	990,709	886,878	103,831	3,392	14,526,002	8,019,084
Minnesota	569,694	524,462	45,232	2,923	9,757,641	3,538,113
Mississippi	177,262	159,134	18,128	86	1,500,000	2,433,535
Missouri	602,900	542,314	60,586	1,980	7,350,000	4,800,000
Montana	94,656	82,135	12,521	252	916,000	735,000
Nebraska	338,718	301,719	36,999	1,207	3,936,458	1,991,884
Nevada	21,185	17,796	3,389	125	208,401	318,217
New Hampshire	81,250	72,750	8,500	1,575	1,500,000	670,005
New Jersey	579,886	457,489	122,397	7,725	10,516,674	None
New Mexico	49,101	46,998	2,103	210	448,298	537,356
New York	1,613,141	1,296,731	316,410	19,816	25,480,807	None
North Carolina	351,767	322,864	28,903	863	5,034,932	3,324,911
North Dakota	144,956	133,775	11,181	443	1,083,573	546,000*
Ohio	1,305,000	1,140,000	165,000	11,000	13,500,000	8,250,000
Oklahoma	438,000	400,000	38,000	1,000	4,529,356	5,374,859
Oregon	216,324	199,299	17,025	2,545	5,365,241	3,065,099
Pennsylvania	1,317,053	1,122,307	194,746	15,649	21,926,972	11,245,816
Rhode Island	102,476	84,827	17.649	1,400	1,728,742	None
South Carolina	170,658	154,393	16,265	400	1,779,848	2,280,000*
South Dakota	168,118	154,230	13,888	355	2,500,000	1,425,000*
Tennessee	248,021	222,810	25,211	672	3,056,954	2,911,214
Texas	968,406	876,706	91,700	2,760	13,534,658	4,580,056
Utah	72,490	63,537	8,953	719	546,519	1,009,966
Vermont	69,576	64,566	5,010	718	1,497,146	262,000*
Virginia	281,100	245,000	36,100	1,590	4,257,149	3,515,876
Washington	332,442	280,838	51,604	2,879	4,980,026	3,000,000
West Virginia	217,069	190,257	26.812	1,432	3,354,247	2,046,172
Wisconsin	596,373	530,131	66,242	3,350	7,896,210	None
	47,712	42,548			,	432,952
Wyoming		40,040	5.164	220	482,857	404,004

1920 Alabama 1,035 Arizona 542 Arkansas ** California 20,047 Colorado 3,364 Connecticut 6,543	1921 805 440 192 17,603 2,868 5,589	1922 638 425 237 16,300 2,770 4,386	Moto 1923 599 392 300 14,694 2,473 2,820	7cycle 1924 549 372 295 12,217 2,226 4,211	Regi 1925 524 359 263 10,997 1,832 4,034	Strations 1920-1925	1921 130 2,358 9,724 214 26,998 1,276	1922 112 1,880 9,284 163 25,175 1,190	1923 90 1,987 8,779 173 22,985 1,300	1924 111 1,750 8,053 230 20,935 1,029	1925 125 1,575 7,725 210 19,816 863
Delaware 674	541 2,487 1,296 1,338 744 7,104 7,524 3,897	427 2,494 1,456 1,000 703 8,156 6,598 3,569	2.510 1,200 1,011 655 7,612 6,042 3,047	325 1,889 936 750 620 6,873 4,822 2,597	375 1,344 966 994 593 6,603 4,525 2,289	North Dakota. 898 Ohio	810 23,026 1,013 3,164 21,111 1,780 756 682 1,043	766 21,256 952 3,206 20,159 1,459 605 660 861	15,000 823 3,140 19,817 1,606 561 471 751	14,700 723 2,765 17,540 1,422 477 355 706	443 11,000 1.000 2,545 15,649 1,400 400 355 672
Kansas 2,972 Kentucky 1,543 Louisiana 500 Maine 1,566 Maryland 7,332 Massachusetts 15,143 Michigan 8,011 Minnesota 1,158	2,271 1,185 498 1,525 7,847 12,048 6,195 3,500	2,315 1,042 509 1,321 7,579 11,675 5,163 3,240	1,950 839 400 1,920 7,455 11,733 4,165 3,220	1,632 730 510 1,250 3,462 10,778 3,644 3,080	1,434 691 500 1,265 3,208 10,333 3,392 2,923	Texas 4,293 Utah 1,114 Vermont 946 Virginia 2,233 Washington 4,915 West Virginia 1,659 Wisconsin 8,002 Wyoming 327	3,905 909 965 2,200 3,763 1,539 6,423 322	3,410 725 856 2,931 3,846 1,361 5,918	3,346 766 839 2,416 3,714 1,353 5,645	2,686 731 779 2,987 3,164 1,407 3,938 252	2,760 718 718 1,590 2,879 1,432 3,350 220
Mississippi 194 Missouri 3,954 Montana 675 Nebraska 2,000	375 3,609 472 1,866	2,792 397 1,856	2,533 374 1,608	110 2,218 293 1,324	1,980 252 1,207	*Estimated. **No dat	207,930 a availa	194,226 ble.	176,630	154,902	140,415

1925 1,575 7,725 210 9,816 863 11,000 1,000 2,564 1,400 400 400 400 400 1,500 2,760 718 1,500 220 40,415

Persons Per Motor Vehicle Jan. 1, 1926

California	2.8	Oklahoma	5.1	Utah	6.8
Nevada	3.7	Vermont	5.1	New York	6.9
Iowa	3.8	Dist. of Columbia	5.3	Pennsylvania	7.1
Kansas	4.0	Texas	5.3	West Virginia	7.4
Nebraska	4.0	Illinois	5.5	New Mexico	7.7
South Dakota	4.1	New Hampshire	5.5	North Carolina	7.9
Oregon	4.1	Maine	5.6	Virginia	8.7
Indiana	4.2	Missouri	5.7	Louisiana	
Michigan	4.2	Delaware	5.8	Kentucky	9.5
Washington	4.4	Arizona	6.0 .	Tennessee	
Colorado	4.5	Idaho	6.0	Arkansas	10.1
Minnesota	4.5	New Jeresey		Mississippi	
Wyoming	4.6	Connecticut		South Carolina	
North Dakota	4.7	Massachusetts	6.4	Georgia	
Wisconsin	4.7	Rhode Island	6.6	Alabama	
Ohio	4.8	Maryland	6.7		
Florida	4.9	Montana		Average—U. S.	5.7

Percentage Gains in Registrations Jan. 1, 1925, to Jan. 1, 1926

Florida	34.3	Connecticut	15.9	Oregon	12.3
Mississippi	31.8	Delaware	15.8	Indiana	
Arkansas		Nevada	15.2	Kansas	11.2
Oklahoma	27.7	North Carolina	15.1	Missouri	10.7
North Dakota	23.8	New Jersey	15.0	Maine	10.2
Alabama	23.7	Massachusetts	14.4	Nebraska	9.7
Tennessee	21.1	New York	14.3	Wyoming	9.3
Montana	18.8	West Virginia	14.2	California	8.9
South Dakota	18.2	Michigan	14.1	Virginia	7.4
Maryland	18.0	Vermont	13.7	Pennsylvania	7.2
Arizona		Wisconsin	13.5	Colorado	6.0
Idaho	17.7	Minnesota	13.3	Iowa	5.9
New Mexico	17.6	New Hampshire	13.0	Ohio	4.9
Georgia	17.0	Rhode Island		Utah	4.7
Louisiana	16.3	Washington	12.8	South Carolina	4.5
Texas	16.1	Kentucky	12.5		
Dist. of Columbia	16.0	Illinois	12.4	Per cent gain, Total	12.7

Gains, Car and Truck Registrations Jan. 1, 1925, to Jan. 1, 1926

New York	200,262	Tennessee	43,341	Montana	14,961
Illinois	139,453	Mississippi	42,715	Maine	12,956
Texas	134,366	Arkansas	41,781	Dist. of Columbia	12,892
Michigan	122,122	Washington	37,630	Colorado	12,871
California	117,983	Alabama	37,318	Idaho	12,259
Oklahoma	95,018	Iowa	36,661	Rhode Island	11,824
Pennsylvania	88,467	Georgia	35,571	Arizona	10,201
Massachusetts	82,023	Maryland	35,103	New Hampshire	9,321
New Jersey	75,696	Connecticut	34,156	Vermont	8,397
Indiana	75,191	Nebraska	30,005	New Mexico	7,351
Wisconsin	71,152	Louisiana	29,000	South Carolina	7,276
Minnesota	66,707	Kentucky	28,970	Delaware	5,545
Florida	66,524	North Dakota	27,895	Wyoming	4,073
Ohio	61,000	West Virginia	26,935	Utah	3,263
Missouri	58,265	South Dakota	25,838	Nevada	2,798
Kansas	46,142	Oregon	23,695	_	
North Carolina	46,011	Virginia		Total 2	,238,441

Cars and Trucks in the United States Jan. 1, 1926

(Arranged in order of rank)

New York	1,613,141	Nebraska	338,718	South Dakota	168,118
California	1,439,463	Washington	332,442	North Dakota	144,956
Pennsylvania	1,317,053	Virginia	281,100	Maine	140,134
Ohio	1,305,000	Kentucky	260,754	Rhode Island	102,476
Illinois	1,263,177	Florida	260,720	Montana	94,656
Michigan	990,709	Connecticut	248,474	Dist. of Columbia	93,612
Texas	968,406	Tennessee	248,021	Idaho	81,484
Indiana	725,410	Georgia	244,871	New Hampshire	81,250
Iowa	657,567	Maryland	230,684	Utah	72,490
Massachusetts	654,338	Colorado	226,118	Vermont	69,576
Missouri	602,900	West Virginia	217,069	Arizona	68,029
Wisconsin	596,373	Oregon	216,324	New Mexico	49,101
New Jersey	579,886	Louisiana	207,000	Wyoming	47,712
Minnesota	569,694	Alabama	194,580	Delaware	40,681
Kansas	457,033	Arkansas	183,764	Nevada	21,185
Oklahoma	438,000	Mississippi	177,262	_	
North Carolina	351,767	South Carolina	170,658	Total	19,843,936

(Continued from page 259)

and buses can be left in their garages and the entire population carried in passenger cars.

Registration statistics are becoming more accurate year by year. In this tabulation, for the first time, it has been possible to eliminate a great deal of duplications caused by non-resident registrations which have been present in registration data of other years. In the figures of only 19 States does any possibility of duplication from this source exist. This number cannot be decreased until different methods of registration are used since these States register non-residents, include them

in their total registration figures and do not segregate them so that they may be deducted from the total.

In a few States there still exists duplication in data as reported, owing to the methods of handling transfers of ownership and replacement of license tags. In the published figures presented here all of these duplications have been eliminated.

This year, for the first time, registration fees and gasoline tax receipts have been separated. Gasoline taxes are in force in nearly all States and total receipts from this source were over 34 per cent of the total automotive receipts.

Motor Vehicle Registration 1913 to 1925

	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Alabama	5,435 3,098	8,078	11,925	21,636	32,873	46,171 23,905	58,898 28,979	74,637 34,559	82,343 35,049	90,052 38,034	126,642 48,741	157,262 57,828	194,580 68,029
Arkansas	3,000	$5,040 \\ 5,642$	7,318 $8,021$	12,124 15,000	19,890 28,693	41,458	49,450	59,082	67,446	86,425	111.946	141,983	183,764
California	60,000	123,516	163,795	232,440	306,916	364,800	477,450	568,892	673,830	861,805	1.100.283	1,321,480	1,439,463
Colorado	13,135	17.756	27,568	43,296	66,850	83,244	104.865	127.549	145,739	162,328	189.356	213,247	226,118
Connecticut .	27,189	33,009	43,985	61.855	85.724	92,605	109,651	119,134	137,526	154,675	177,931	214,318	248,474
Delaware	2,350	3,050	4,657	7,102	10,700	12,955	16,152	18,300	21,413	24,560	29,977	35,136	40,681
Dis. of Col	2,373	4.833	8,009	13,118	15,493	30,490	35,400	39,712	61,745	85,425	103,171	80,720	93,612
Florida	2,372	3,368	10,850	20,718	27,000	54,186	55,400	73,914	97,837	115,891	160,000	194,196	260,720
Georgia	18,500	20,916	25,671	47,579	70,357	99,800	127,326	144,422	131,942	145,584	173,794	209,300	244,871
Idaho	2,173	3,346	7,071	12,999	24,768	32,289	42,220	50,873	51,264	53,874	62,379	69,225	81,484
Illinois	94,656	131,140	180,832	248,429	340,292	389,620	478,438	568,759	670,434	786,190	969,331	1,123,724	1,263,177 725,410
Indiana	47,000	66,400	96,915	139,317	192,192	227,160	277,255 363,857	332,707 $437,300$	400,342 460,528	469,939 500,148	588,342 576,398	650,219 $620,906$	657,567
Kansas	75,088 34,366	112,134 $49,374$	152,134 $72,520$	$\substack{198,602 \\ 112,122}$	254,317 $159,343$	278,313 $189,163$	227,752	265,396	291,309	327.194	375.594	410.891	457,033
Kentucky	7.210	11.746	19,500	31,700	47,416	65,870	90,641	112,685	126,371	154.021	198,347	231.784	260,754
Louisiana	7,200	12,000	11,380	17.000	28,394	40,000	51,000	66,000	80,500	102,284	138,500	178,000	207,000
Maine	10,570	15,700	21,545	30,972	41,499	40,372	53,425	62,907	77,527	92,539	108,609	127,178	140,134
Maryland	14,254	20,213	31,047	44,245	60.943	74,666	95,634	116,341	140,572	165,624	209,938	195,581	230,684
Massachusetts.	62,660	77,246	102,633	136,809	174,274	193,497	247,183	304,631	360,732	385,231	566,150	572,315	654,338
Michigan	54,366	76,389	114,845	160,052	226,693	262,125	325,813	412,717	477,037	578,980	730,658	868,587	990,709 569,694
Minnesota	37,800	67,862	93,269	46,000	54,009	204,458	259,743	309,569	328,700	380,557	448,187	502,987	177.262
Mississippi	3,000	5,964	9,669	25,000	36,600	48,400	45,030	63,484	65,139	77,001	104,400	134,547 544,635	602,900
Missouri	38,140 5,686	54.468 10.172	76,462 14,499	103,587	147,528	188,040	244,363 59,325	296,919	346,437 58,785	392,969 62,649	476,373 73,828	79,695	94,656
89 - 1 - m 1	25,617	40,929	59,140	$24,440 \\ 100,534$	42,696 $148,101$	51,037 $175,409$	192,000	60,646 $223,000$	238,704	256,654	286,053	308,713	338,718
Nebraska	1,131	1.487	2,009	4,919	7,160	8,159	9,305	10,464	10,819	12,647	15,700	18,387	21.185
New Hamp	7,420	9,571	13,499	17,508	22,267	24,817	31,625	34,680	42,039	48,293	59,571	71,929	81,250
New Jersey .	48,892	60,247	78,232	104,341	134,964	155,519	190,873	227,737	272,994	341,626	430,958	504,190	579,886
New Mexico.	1,721	2,945	5,100	8,228	8,457	15,000	18,077	22,109	24,703	25,473	31,737	41,750	49,101
New York	134,405	169,966	234,032	317,866	411,567	463,758	571,662	669,290	812,031	1,002,293	1,214,642	1,412,879	1,613,141 351,767
N. Carolina .	10,000	14,677	21,000	33,904	55,950	72,313	109,017	140,860	148,684	182,550	247,612	305,756	144,956
North Dakota	13,075	15,701	24,908	40,446	62,993	71,627	82,885	90,840	92,644	99,052	109,244	117,061 1,244,000	1,305,000
Ohio	86,054 $7,934$	$122,504 \\ 13,500$	$181,332 \\ 25,032$	$252,431 \\ 52,718$	$346,772 \\ 100,199$	412,775	511,031	615,397	720,632 $221,300$	859,504 249,659	1,068,700 307,000	342,982	438,000
Oregon	13,957	16,447	23,585	33,917	48,632	$121,500 \\ 63,324$	144,500 83,332	204,300 103,790	118,325	134,299	166,412	192,629	216,324
Pennsylvania.	76,178	112,854	160,137	230,578	325,153	394,186	482,117	570,164	689,589	829,737	1,064,624	1,228,586	1,317,053
Rhode Island.	10,294	12,331	16,362	21,406	37.046	36.218	44.833	50.375	54,957	66,466	85,480	90,652	102,476
S. Carolina	11,500	14,500	15,000	19,000	38,322	55,492	70,143	93,843	90,546	95,978	128,656	163,382	170,658 168,118
South Dakota	14,578	20,929	28,784	44,271	67,158	90,521	104,628	120,395	119,274	125,238	131,720	142,280	248,021
Tennessee	14,860	19,769	22,738	30,000	48,000	63,000	80,422	101,852	117,025	135,716	173,365	204,680	968,406
Texas	54,362	64,732	90,000	197,687	213,334	251,118	331,310	427,693	467,616	526,238	688,899	834,040 69,227	72,490
Utah	4,021	2,253	9,177	13,507	24,076	32,273	35,236	42,578	47,523	49,156	66,025	61.179	69.576
Vermont	5,918 9,022	8,256 14.002	11,499 21,357	15,671 35,426	20,369 55,000	$\frac{22,655}{72,228}$	26,807 94,120	31,625	36,965 141,600	43,881 169,000	52,776 219.092	261.643	281.100
Washington .	24,178	30,253	38,823	60,734	91,337	117.278	148,775	$134,000 \\ 173,920$	185,359	220.957	261.224	294,812	332,442
W. Virginia	5,088	6,159	13,279	20,571	31,300	38,750	50,203	78,862	93,894	112,763	162,191	190,134	217.067
Wisconsin	34,646	53,161	79,791	115,637	164,531	196,844	236,981	293,298	341,841	388,044	457.271	525,221	596,378
Wyoming	1,584	2,428	3,976	7,125	12,523	16,200	21,371	23,926	26,619	30,637	39,831	43,639	47,712
Matala	949 050	1 700 000	9 404 010	9 504 507	4 070 071	0 105 500	7 500 500	0.000.111	10 505 600	10 000 770	15,312,658	17 605 495	19,843,936
Totals	1,245,036	1,768,963	2,494,912	3,584,567	4,970,671	6,105,588	7,596,503	9,200,141	10,505,630	12,299,170	10,312,008	11,000,100	1

\$3,900,000,000 in Financing 1925 Car Sales

(These charts are based on figures supplied by C. C. Hanch, general manager, National Association of Finance Companies)

MONEY INVESTED IN FINANCING NEW CAR SALES

1924 -\$2,250,000,000

RETAIL 1,250,000,000

WHOLESALE \$1,000,000,000

1925-\$2,690,000,000

RETAIL \$ 1,390,000,000

WHOLESALE \$1,300,000,000

USED CAR SALES

1924

\$ 750,000,000

1925

\$1,210,000,000

NUMBER OF CARS FINANCED

1924 2,260,000

NEW

1925

3,150,000



1924 1,850,000

USED

1925

2,600,000

VALUE OF REPOSSESSIONS

1924

NEW

1925

1924

USED

1925

32,781,000

\$ 36,453,000



\$45,889,000

PERCENTAGE FINANCING LOSSES TO GROSS BUSINESS 1924-0.18% 1925-0.19%

regate total. n data nsfers In the uplica-

tries

928

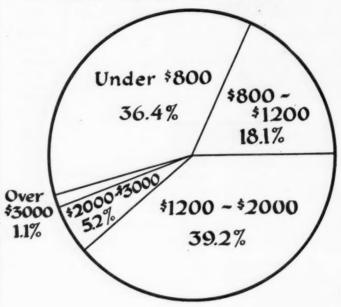
es and asoline eceipts l auto-

1925

194,580 68,029 11,439,463 228,143 226,123 248,471 40,687 33,612 260,729 244,871 1,263,754 260,754 267,754 267,754 267,754 267,754 267,754 267,754 267,754 267,754 2

19,843,936

Percentage of Car Agencies Divided According to Price Groups



Dealers and

ANUFACTURERS have been giving more attention in the last year to helping the dealer stabilize his business than at any previous time. Along with strenuous efforts to increase the number of retail outlets has come almost equally strong attempts to build into better business men the dealers already in the organizations.

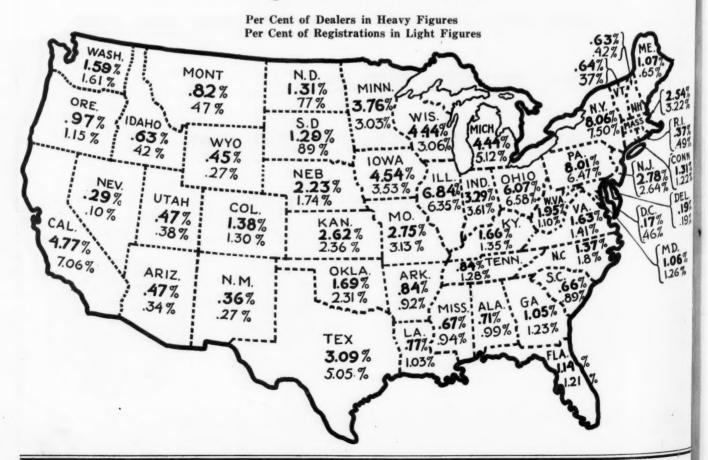
A few outstanding facts about the relation of dealers to other factors in the distributing scheme are given in the accompanying charts. They show, among other things, that the strong competition in the \$1200-\$2000 price class has resulted in that group having a larger percentage of the total number of agencies than any other simple price class.

Where Dealers Are Located

Another interesting fact about the present distribution of dealers, is that about 66 per cent of all dealers today are located in towns of less than 10,000 population, 50 per cent being in towns of less than 5000 population. Cities of over 50,000 population include only a little over 15 per cent of all the dealers now selling cars.

The chart on the right showing percentage of dealers

Percentage of Motor Vehicle Dealers and of Registrations in Each State



Auto

by probit control valuation

The ing a of the of all 69 per lines

Per co Ford Nev has in also a monword of dea tration

Cali only 4 it ran

F

Acc

13% Do Not

nd Distribution

by price groups and by towns of various sizes looks a bit complicated at first glance, but is included as a valuable reference giving considerable information in a brief space. Reading of its caption will make its utilization relatively simple.

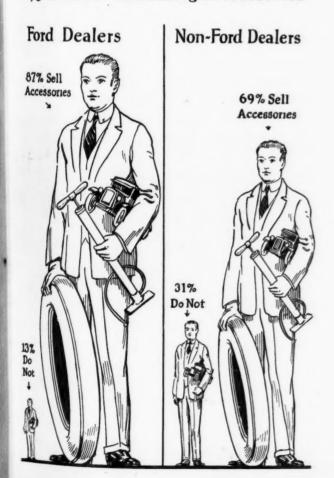
The greater interest which dealers are taking in selling accessories and equipment is illustrated by another of the accompanying charts. Eighty-seven per cent of all Ford dealers today are selling accessories, while 69 per cent of all non-Ford dealers merchandise equipment lines in addition to their cars.

A similar survey made in 1923 showed that only 58 per cent of Ford dealers and only 41 per cent of non-Ford dealers handled accessories and equipment.

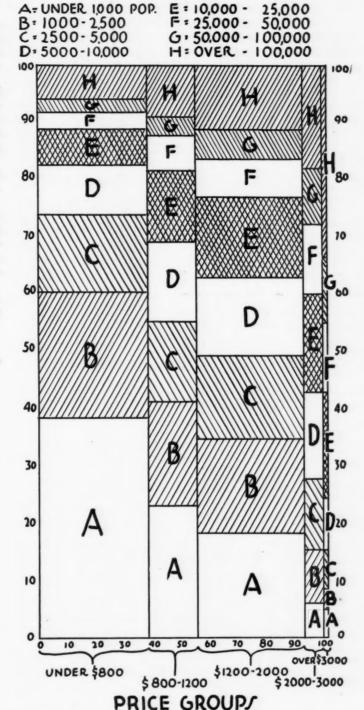
New York state, as is shown by the accompanying map, has in it the largest percentage of total registrations and also a larger proportion of dealers than any other commonwealth. Pennsylvania ranks second in percentage of dealers, but stands fourth in proportion of regis-

California, which ranks second in registrations has only 4.77 per cent of the dealers of the country making it rank sixth in this respect.

% Dealers Handling Accessories



% Dealers by Price Groups by Towns of Various Sizes



In this chart horizontal measurements represent percentage of dealers by competitive price groups and vertical distances represent percentage of dealers in each group in towns of various sizes. Thus, of all car dealers nearly 40 per cent (horizontal measurement) are in the lowest price group and about the same percentage of dealers in this price group are located in Class A towns, those under 1000 population

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, 1926

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given in ng other 200-\$2000 a larger han any

tribution ers today ation, 53 pulation a little cars. of dealers

A

American Passenger

For Complete Engine Specifications see pages 270-271-272-273

		GE	NERAL		С	LUTCH				GEA	RSET							R	EAR A	XLE		
MAKE AND MODEL	Wheelbase (In.)	Chassis Weight (Lb.)	Tire Sine	Balleens	Make and Medel	Туре	Number of Driving and Driven Disks	Maximum Dia.(In.)	Minimum Dia. (In.)	Make	Location	Number of Forward Speeds	Low Gear Ratio	Universals Type and Make	Propeller Shaft Number of Pieces	Make	Туре	Final Drive	Gear Ratie	Propulsion Taken By	Torque Taken By	Minimum Read Clearance (In.)
jax	130	1890 2375 2675	33x6.0 33x6.2 30x5.2 30x5.2	75 Stdd	B&B	SP SP SP	2-1 2-1 2-1 2-1 2-1 2-1	978	63/4	Own	Eng Eng Eng Eng Eng	3 3 3	3.11	f-Thm m-Ste m-Mec m-Uni m-Uni	1 2 2 1 1 1	OwnColSalColCol	32F	SB SB SB SB SB	43/9 51/10 51/10 51/10 51/10 51/10	Spr Spr Spr Spr Spr	Spr Spr	8% 0m Cai Cai Sai Sai Sai Sai Sai Sai
BuickSto	114% 120 128	2125 2670		Stdd Stdd	Own		5-5 5-5	78/4 78/4		Own Own	Eng			m-Own m-Own	1	Own	FF.	SB	49/10 47/10	TT	TT	9a BI/
Cadillac 31 Case JI Case 1 Chandler 3 Chevrelet B Chrysler 5 Chrysler 6-C Chrysler 6-C Cleveland 3 Cleveland 4 Cunningham V-		3330° 2800 2900 1820 2342 Var.	32x6.2 34x7.2 33x6.0	75 Stdd 20 Stdd 30 Stdd 30 Stdd 30 Stdd 50 Stdd 77 Stdd 77 Stdd 75 Stdd 75 Stdd 75 Stdd	Own. Own. Own. B&B. Own. Rock. Rock. Own. B&B. 9 B&B. 10	SP Q SP Q SP	1- 2-1 2-1	814 918 9 856 938 12 876	614 614 614 578 656 814 614	Own	Eng. Eng. Eng. Eng. Eng. Eng. Eng. Eng.	3 3 3 3	3.62 3.62 3.32 3.76	m-Spi. f-Sne. f-Sne. f-Own. m-Own. f-Own. m-Uni. m-Uni. f-Pick. f-Sne. f-Sne.	3 3 1 1 1 1 1 3 1 1 1	Own. Col. Col. Own. Own. Own. Own. Own. Own. Tim. Own. Tim.	AFF TO FEE	SB SB SB SB SB SB SB SB SB SB	42/11 46/10 43/10	Spr. Spr. TT. Spr. Spr. Spr. Spr. Spr. Spr. Spr. Spr	Spr Spr Spr Spr Spr Spr	10 On 94 ON
Dagmar 6-6 Dagmar 6-7 Davis 9 Davis 9-1 Dalling (Steam) 12 Diana 25tr. Dadge Brothers 12 Dussenberg 5t. Dupont 1. Durant A-2	0 120 0 138 2 115 3 109 6 132 8 12534 116 8 134°	1700 1500 3100 2450 2900 1485	32x6. 33x5. 30x5. 29x4. 32x6. 32x6. 30x5. 33x5.	20 Stdd 77 Stdd 95 Stdd 20 Stdd 20 Stdd 96 Stdd 97 Stdd 98 Stdd 99 Stdd 91 Stdd 92 Stdd	. B&B	5 MD X SP Q SP None L SP MD SP	2-1 4-3 1-1	978 878 No. 978 9 13	63/4 No 63/4 68/4 73/6 58/4	W-M B-L. W-G W-G. No. War. Own. Own. Cpl.	Eng Eng Eng No Eng Eng Eng Eng Sep	3 4 3	5.35 3.11 3.07 1.00 3.11 4.17	m-Spim-Petm-Petm-Unim-Mecm-Ownf-Clim-Unim-Spi	1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1	Sal. Tim. Col. Ccl. Eat. Col. Own. Con. Col. Own.	NAME OF STREET O	8B 8B 8B 8B 8B 8B 8B 8B 8B	. 49/10 . 49/9 . 2.00 . 51/10 . 50/12 . 49/10 . 49/11	Spr	Spr Spr Spr Spr Spr TT TT Spr	9 Cal. 9 Cal. 9 Cal. 9 Cal. 8 Cal. 8 Cal.
Elcar 4-5 Elcar 6-6 Elcar 8-8 Essez	5 116 5 116 1 127° 5 11034	2000 2130 3100 1780	30x5.	25 Stdd 25 Stdd 95 Stdd	B&B 9 Long 10.0 Own	c SP	2-1 2-1 3-2 4-8	878 884 784 No	61/6 61/4 53/4 No	W-G W-G W-G	Eng Eng Eng	. 3	3.17	m-Mec. m-Mec. m-Spi m-Spi	1 1 2 2 2	SalSalSalSal	136F	SB SB SB SB	. 47/10	Spr Spr Spr	Spr Spr Spr	934BL 9 BL 854BL 9 On
Flint Jr. Flint 6 Flint 8 Ford 11	0 115	1243	30x5.	25 Stdd 77 Stdd 20 Stdd 5 Stdd	Own. Own. Own. Own. B-L.	SP SP T MO	13-13	12 12 12 No 97/8	10 No 63/4	War War Own	Eng Sep Sep Eng Eng	3 3	3.24	m-Spi m-Spi m-Spi m-Own. m-Spi	2 1 1 1 1	AdaAdaOwn	12F 12F 12F 12F	SB SB SB TB SB	. 43/9 . 43/9 . 43/9 . 40/11 . 52/11	Spr Spr Spr TT Spr	Spr Spr	97 dd 97 dd 197 dd 197 dd
Gardner6-/ Gardner8-/ Gray	125	1500 1800 1225	32x6.	25 Stdd 00 Stdd 40 Stdd	B&B 100 B&B 100 Own	LISP	. 2- 2- 2- 2-	1 97/8	634	War War Det	Eng Eng	. 3	3.78	m-Cle m-Cle f-Sne	1 1 2	Col Col Tim	15F 15F	SB SB SB	. 49/10 . 51/10 . 39/10	Spr Spr	Spr Spr	9 Ci 9 Ci 94 Ne
HertzD- HudsenSuper Hupmebile	A 114	2800 2775	33x6. 30x5.	77 Stdd 00 Stdd 25 Stdd 00 Stdd	Long	Q SP	3-2 6-4 2-2 2-3	53/4 6 No. 1 87/8	61/8		Eng Eng	3 3 3	3.04	m-Uni. m-Spi m-Mec. m-Uni	1 2	Tim					Spr Spr	834 Tu 9 Ou 934 Bii Bii
JewettNew-Da Jerdan Jerdan	A 1253	1810	. 32x6.	75 Stdd 20 Stdd 00 Stdd	Rock9H Det Long	SP	2- 2- 2- 2-	1 87/8 1 97/8 1 97/8	67/8	War Det War	. Eng	3 3	3.12	m-Mec. m-The. m-Uni	1 2 2		1/2F 1/2F 1/2F	. SB SB	. 49/10 . 51/11 . 49/11	Spr Spr	Spr Spr	8 人 8人 10 10 10 10 10 10 10 10 10 10 10 10 10
Kissel5 Kissel7		2800 3000	33x6.	00 Stdd	B&B100 B&B100	L SP.		1 97/8		W-G	_	1	3.11	m-Pet m-Pet	. 2	Tim				-	. Spr	48/5
Lexington6-5 LincelnLecemebile	8 130 8 124	2125 3755	33x5. 30x5. 35x6.	77 Stdd 77 Stdd 75 Stdd 75 Stdd	Long. Own. Spi. Spo Own. Own.	SP.	2- 2- 2-	2 7% 8 8% 1 9% 1 13% 1 13%	58/4 68/4 61/4 91/4	W-G. Own. Own. Own.	Eng. Eng. Sep. Sep.	3 3 4 3	3.2	f-Pick m-Spi m-Uni m-Spi m-Uni	. 3 1 2 1 2	Sal Tim Own	. 14F	. 8B	. 51/10	Spr	Spr TT Spr TA	8%(B) 9%(B) 8 (B) 9%(B)
Marmen	V 1411 8 131 A 113	2700 2050 2650	32x6. 33x6. 33x6. 33x6. 30x5. 32x6.	20 Stdd 20 Stdd 75 Stdd 20 Stdd 25 Stdd	Own	X SP Q SP	1 2-	6 81 2 73 1 137 1 97 1 97 1 97	61 58 78	Own	Eng. Sep. Eng.	3 3 3	3.0	m-Spi f-Cle m-Uni m-Uni m-Spi	. 2 . 3 . 1 . 2 . 1	OwnTimTimTimColTim.					TT TA TA Spr Spr	
NashAdvance NashSpeci	d 121°	3540	1	00 Stdd 25 Stdd	B&B B&B	SP	1-	1 107	67	Own	Eng.	. 3	3.2	m-Own	. 1	Own					. Spr	44.05
Oakland	6 113 ix 1103	1970 1740	30x5. b 30x4.	25 Stdd 95 Stdd	Own B&B	SP	1-	2 87	51	Mun Mun	Eng.	3	3.3	m-Mec.	. 2	Own					. Spr	400

*ABBREVIATIONS:

*—At Extra Cost

**—Standard on Coupe, Sedan and Landau Sedan ††—Standard on Phaeton Model

*Others Furnished

a—Under Front Axle

b—Touring Car Complete

A—Artillery

Ada—Adams

Alem—Alemite

Arc—Archibald

B&B—Borg & Beck

B-L—Brown-Lipe

Bij—Bijur

Bim—Bimel
BLC—Brown Lipe Chapin
B-Fw—Both Internal and
External Four Wheels
Bow—Bowen
BPS—Bevel, Pinion and
Sector

BPS—Bevel, Pinion a Sector Bud—Budd Buf—Buffalo Byn—Bynum Cam—Campbell CAS—CAS Products CI—Clincher Cle—Cleveland CII—Climax

C&L—Cam and Lever
CM—Central Magazine
Co—Cone
Col—Columbia
D—Disk
Det—Detroit
DH—Direct Hydraulic
Dis—Disteel
DIt—Ditweller
DM—Direct Mechanical
Dur—Durston
Eat—Eaton
El—Elliott
Eng—Unit with Engine

Eng—Unit with Engine
Ex-Dr—External Driveshaft

Ex-Fw—External Four Wheels
ExRw—External Rear Wheel
f—Fabric
FE—Full Elliptic
FFF—Full Floating
Fir—Firestone
Fil—Filnt
Ful—Fuller
Gem—Gemmer
GC—Grease Cup
Har—Hartford
Hay—Hayes
HBD—Hoops Bros. and
Darlington
Hoo—Hoosier

Hou—Houk
Hyd—Hydraulic
I—"I" Section
InFw—Internal Four Wheels
In-Rw—Internal Rear Wheels
Ind—Indestructible
Jac—Jacox
Jax—Jaxon
Just-Justrite
Kel—Kelsey
Lav—Lavine
Lon—Long
m—Metal
Mag—Magazine
MD—Multiple Disk

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, 1926

Torque Taken By Minimum Read Charance (In.)

TT 94 Bill
TT 94 Bill
TT 10 Ch
Spr 94 Ch
Spr 94 Ch
Spr 94 Ch
Spr 94 Ch
Spr 95 Ch
Spr 9

Four Wheels I Rear Wheels ble

Chassis Specifications

For Body and Equipment Specifications see pages 274-275-276

	BR	KES				FR	ONT	AXLE		ST	EERING	GEAR			SPRI	NGS		FR	AME	CHAS		R	IMS	WH	EELS	
	Foot		Han	d				(Deg.)				ked G.	t.)	I	rent		Rear			CATI	ON					
Type and Location	(Sq. In.) Application	Optional Four Wheel Brakes	Type and Location	Braking Area (Se. In.)	Shackles Type	Make	Axle Section Type	Transverse Inclinat Steering Pivets (I	Azle End Type	Make	Туре	No.of Rev.of Steering Gr. from Locked to Locked Positions of Road Wheels	Minimum Turning Circle Diameter (ft.	Туре	Length and Width (In.)	Туре	Length and Width (In.)	Material	Make	Make	Туре	Туре	Make	Туре	Make	MAKE AND MODEL
B-Fw B-Fw Ex-Fw R-Fw.	191 DM DM DM DH 302 DM	Stdd Stdd Stdd Stdd Stdd Stdd	Ex-Dr In-Rw In-Rw Ex-Dr Ex-Dr Ex-Dr	29 501 501	M. M. M. M.	Own Col Sal Col Col	I I I I I	0 6 6	RE. RE. RE. RE.	Ross Ross Ross Ross Ross	C&L C&L C&L C&L C&L C&L	21	38 38 283 283 334	E.E.E.	36 x2 34 x13/4 34 x13/4 383/x2 383/x2 383/x2	EEEEEEEEE	50½x2 48 x2 48 x2 56¾x2 56¾x2 56¾x2¼	13/92		Alem Zerk Zerk Just Dot	PG	188	Budd Fir Fir Fir Fir	ID	Budd Ind Ind Bim Bim Mot	Ajax
Ez-Fw. Ez-Fw.	270 DM 350 DM	Stdd Stdd	In-Rw In-Rw	98 132	M. M.	Own	I	1		Jac Jac	S&N	23/4 31/4	3714 4114	1/2E.	36½x2 36½x2	Ca	48 x2½ 47%x2½	PS	Smith. Smith.	Zerk Zerk	PG.	88 88	Jar Jar	A	Jax Jax	BuickStd BuickMaster
R-Fw. Ex-Fw. Ex-Rw. Ex-Fw. Ex-Fw. Ex-Fw. Ex-Fw. Ex-Rw. In-Fw.	400 DM 315 DH 410 DH 164 DM 120 DM 203 DH 203 DH 245 DH 126 DM 164 DM 365 DM	Stdd Stdd Extra None Stdd Stdd Stdd Mec* Mec* Stdd	In-Rw Ex-Dr Ex-Dr In-Rw Ex-Dr Ex-Dr Ex-Dr Ex-Dr Ex-Dr In-Fw	240 50 50 36 721 491 491 39 39 365	M. M. M. M. E. R. M. M.	Own Col Col Own Own Own Own Own Tim	I I I I I I	2 9 9 7 7 6 0 5 6	RE. RE. El. El. El. RE. RE. RE.	Own Roes Roes Own Gem Gem Gem CAS Gem	C&L. C&L. W&S. W&S. C&L. W&S. W&S. W&S.	2 18 29/4 21/2 2 2 2	44 47 50 38 42 39 45 35 42 46	EEEEEEEEEEEE	42 x2 39 x2 39½x2 40¾x2 36 x1¾ 36 x2 35½x1¼ 41½x2¼ 33½x1¼ 40 x2½	E.E. L.	60 x2½ 54¾x2½ 57 x2½ 59¼x2 54 x1¾ 53 x2 51¼x2 57½x2 51¼x2 51 x1¾ 54 x2 62 x2½	PS PS PS PS RS PS PS PS	Own Own Own Smith. Smith. Smith. Mid Mid P&B	Alem Saal Saal Bow Alem Zerk Zerk Zerk Bow Alem	PG. PG. Mag PG. PG. PG. Mag Mag	88 88 88 88 88 88 88 88	Kel. Fir. Mot. Kel. Mot. Kel. Jax Fir.	A A D A A A O	Kel Mut Mut Mot Hay Mot Kel Mot Bim Opt	Cadillac. 314 Case. JIC Case. T Chandler 35 Chevrolet K Chrysler. 58 Chysler. 6-G Chysler. 6-C Cleveland 31 Cloveland 43 Cunningham V-6
Es-Rw. Es-Rw. Es-Fw. Es-Fw. Es-Fw. Es-Fw. Es-Fw. Es-Fw. Es-Fw.	240 DM 302 DH 302 DH DH 194 DH 180 DM 268 DH 280 DH	Hyd*. N.P. Stdd. Stdd. Stdd. Stdd. N.P. Stdd. Stdd. None.	Ex-Dr In-Rw Ex-Dr Ex-Dr Ex-Dr Ex-Dr In-Rw Ex-Dr In-Rw In-Rw	230 561 563 48 125 34 403 124	M. M. M. M. R. M. M. M. M.	Sal Tim Col Col Eat Col Own Own Col Own	I	2 61/2 61/2 2 1	EL EL RE. EL EL RE.	Ross Ross Ross Ross Ross Ross War	C&L. C&L. C&L. C&L. C&L. C&L. W&W. C&L. S&N. W&W.	2 2 2 2 1 2 1 1 1	20 20 50 47 48 25	SEE EE EE EE EE EE EE	36 ½x2 36 x2 35 x2 35 x2 37 x2 36 x2 37 x2 39 x2 39 x2 34 x2	E E E E E E E E E E E E E E E E E E E	52 x2 52 x2\forall 52 x2 52 x2 57\forall 54\forall 54\forall 50 x2\forall 50	PS PS PS PS PS PS PS PS PS	Smith. Smith. P&B. Mid Smith. Own. P&B Smith.	Alem. Alem. Gits Gits Alem. Zerk. Dot Alem	PG. OC. OC. PG. PG. PG. PG.	88. 88. 88. 88. 88. 88. 88. 88.	Fir Fir Jax Buf Fir Kel Fir	D D D A W	Ind Ind Mot	Dagmar
Ex-Rw. Ex-Pw. Ex-Rw. Ex-Rw.	110 DM 218 DH 293 DH 138 DM	Mec*. Stdd Stdd N.P	Ex-Dr Ex-Dr Ex-Dr In-Rw.	. 36½ . 36½ . 49½ . 105	M. M. M. M.	Sal Sal Own	I	6° 7° 2°b	El RE. RE. El	Ross Ross Own	C&L C&I C&L W&W.	214	†† 39	16E. 16E. 16E.	34 x2 34 x2 3734x2 36 x2	LEE LEE	51 x2 51 x2 58 x234 5476x2	PS. PS. PS.	P&B P&B P&B Own	Alem Alem Bow Own	PG. PG. Mag OW.	88. 88. 88. 88.	Fir Fir Fir Jax	A A A	Pru Pru Day° Mot	Elcar . 4-5: Elcar . 6-6: Elcar . 8-8: Essex
Ez-Rw. In-Fw. In-Fw. Ez-Dr. Ez-Dr.	138 DM 188 DH 188 DH 47 DM 93 DM	None. Stdd. Stdd. N.P. N.P.	Ex-Dr. Ex-Dr. Ex-Dr. In-Rw. Ex-Rw.	. 43 . 41 . 47 . 151	R. M. M. 4 M. M.	Ada Ada Ada Own	I	53/2 0	RE. RE. RE.	War Ross Ross Own	C&L.						52 x2 51½x2 55 x2 43½x2 38 x1¾									Flint. Jr. 66 Flint. 86 Flint. 87 Ford. 1 Franklin. 11A
In-Fw In-Fw Ex-Fw.	221 DM 221 DM 170 DM	Stdd. Stdd. Mec	In-Rw In-Rw Ex-Dr	. 110 . 110 . 243	M.M.	Col Col Own	I	7 7 7	RE. RE. RE.	Ross Own	· Carr.	23/2 23/2 2	18 20 34	1/2E.	38 x2 38 x2 36 x2	1/2E.	57 x21/4 57 x21/4 30 x2c	(PS.	Mid	Alem.	IPG.	ISS.	Fir	. A	Dis	Gardner
Ex-Rw. Ex-Rw. B-Fw. Ex-Fw.	218 DM 212 DM 249 DM° 282 DH	Mec. N.P. Stdd.	Ex-Dr In-Rw Ex-Rw Ex-Dr	451	M	Tim	T	0	RE. El. RE. RE.	Ross Gem Ross	C&L W&S C&L C&L	21/4 31/2 21/2	38 46½ 18 37	1/2E. 1/2E. 1/2E.	37 x2 39 x2 57 x2 37 x2		56 x24 5741x21 54 x2 56½x2						1			Hertz D- Hudsen Super (Hupmobile E-
Ex-Pw. Ex-Pw. Ex-Pw.	170 DH 300 DH 300 DH	. Stdd.	Ex-Dr Ex-Dr Ex-Dr	. 373 . 60 . 60	M.M.	Sal Tim Tim	. I	0 2½	RE. RE.	Gem Gem	W&S W&W. W&W.	2	36	1/2E. 1/2E.	36 x2 37 x2 37 x2	1/2E 1/2E 1/2E	54 x2 55 ³ / ₄ x2 55 ³ / ₄ x2	PS. PS. PS.	Own Mid Mid	Zerk. Alem.	PG PG PG	88. 88. 88.	Jaz Fir Mot	. A	Moto Mot	Jewett New-Day Jerdan
Ez-Fw.	364 DH	Stdd.	Fr-De	50	M	1	. I	6	RE.		C&L.		1	1/2E.	38 x2	16E	56 x2½	PS.	Smith	Daw.	PG.	. 88.	Fir	. A		Kissel
Ex-Fw. Ex-Rw. In-Fw. In-Fw.	200 DH 267 DM 236 SM 563 DM 392 SM	Stdd. N.P. Stdd. Stdd.	Ex-Dr In-Rw In-Rw In-Rw In-Rw	. 204 . 118	R.	Sal Tim Own Own Eat	. I	6 2 23/2 73/2 23/2	El.	Ross Own Ross Ross	C&L. W&S. C&L. C&L.	13/4 21/4 2 21/2 21/4	42 42 45 55 48	1/2E	38 x2 39 x23 37½x2 40 x2 40 x2	1/2E	56 x2 60 x2½ 5538x2 50 x2½ 60 x2½	IPS.		Zerk.	.IPG.	. 188.	WW. Kel Hay Fir	. A	Hay	Lexington 6-54 Lincoln 1 Locomobile 4 Locomobile 9
Ea-Rw. Ea-Fw. Ea-Fw. Ea-Fw. Ea-Fw.	214 DM. 288 DH. 407 DH. 288 DH. 194 DH. 272 DH.		In-Rw Ex-Dr In-Rw Ex-Dr						El	Own Ross Ross	S&N. C&L. C&L. C&L. C&L. C&L.	3 23/4 23/4 23/4 21/4 21/4	46 47 51	1	1		45 x2½ 58½x2½ 64 x2½ 58½x2½ 54 x2 54¾x2									Marmen
B-Fw.	354 DM. 252 DM.	Stdd.	Ex-Dr.	. 60	M.	Own	. I	0	RE.	Gem	. W&S	. 3	55 45		39½x2 37½x2		. 56½x2½ . 53½x2			Alem.		1	. Budd.	. D	Budd Budd	NashAdvanced NashSpecia
Ez-Rw.	260 DM. 131 DM.	Stdd. N.P.	Ex-Dr	. 41	M.	Own	: I	21/8	RE RE	Jac	S&N.	21/4	19½ 37½	1/2E	36 x2 35 x2	1/2E 1/2E	52½x2 50¼x2	PS. PS.	Smith Smith	Dot.	PG PG	. 88. 88.	Jax	A	Mot	Oakland"6" OldsmobileSin

M&E—Merchant & Evans
Mac—Mechanics
Mid—Midwest
MO—Multiple Disk in Oil
Mot—Motor Wheel
Mun—Muncie
Mur—Murray
Mut—Mutual
NP—No Provisions
North—Northway
OC—Oil Cups
OW—Oil Cup with Wick
O—Optional
Opt—Optional

PG—Pressure Gun
PJ—Phineas Jones
PS—Pressed Steel
P&B—Parish & Bingham
Par—Parish Corp.
Pet—Peters
Pic—Pick
Pla—Planetary
P—Platform
Q—Special
R—Rubber
RA—Rear Axle
RE—Reverse Elliott
RR—Radius Rods

RW—Rudge Whitworth Roc—Rockford Ros—Ross Rub—Rubsam SB—Spiral Bevel SO—Single Plate in Oil SP—Single Dry Plate Spec—Special Spec—Special
SS—Straight Side
S&N—Screw and Nut
Sal—Salisbury
Sav—Savage
Sep—Separate Unit
Smi—Smith

Sne—Snead
Spl—Spicer
Spr—Springs
Stad Standard
St-M—St. Marys
Ste—Sterling
T—Tubular
TA—Torque Arm
TB—Straight Bevel
TT—Torque Tube
Tua—Tuarc
T'/4E—/4 Transverse Elliptic
The—Thiemer

Thm—Thermoid
Tim—Timken
TX—Transverse "X" Shape
Uni—Universal
Var—Various
W—Wire
War—Warner Gear
W-C—Warner Corp.
Wd—Wood
W&S—Worm and Sector
W&W—Worm and Wheel
½ E—½ Elliptic
½ F—½ Floating
¾ F—¾ Floating

Type and Location

Ex-Rw. Ex-Rw.

B-Fw.
B-Fw.
Ex-Fw.
Ex-Fw.
Ex-Fw.
Ex-Fw.
Ex-Rw.
In-Fw.
Ex-Rw.

Ex-Rw.
In-Fw.
In-Fw.
In-Fw.
In-Fw.
Ex-Fw.
Ex-Rw.
Ex-Fw.
In-Rw.
In-Rw.

Ex-Pw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
Ex-Rw.
In-Fw.

Ex-Fw. Ex-Fw. Ex-Fw. B-Fw. B-Fw.

M&E
MecMidMOMotMunMurNPNorth
OCOWO-Oj
Opt-

American Passenger Car

For Complete Engine Specifications see pages 270-271-272-273

			GE	NERAL			CLUTC	Н			GE	ARSET							R	EAR A	XLE			
	MAKE AND MODEL	Wheelbase (In.)	Chassis Weight (Lb.)	Tire Size	Balleens	Make and Model	Туре	Number of Driving and Driven Disks	Maximum Dia.(In.)	Minimum Dia. (In.)	Make	Lecation	Number of Forward Speeds	Lew Gear Ratie	Universals Type and Make	Propeller Shaft Number of Pieces	Make	Туре	Final Drive	Gear Ratio	Propulsion Taken By	Torque Taken By	Minimum Read Clearance (In.)	Differential Make
	Overland91 Overland93	100	1530	30x3.1/2 29x4.40 29x4.95		B&B	8P	1-1			Own	Eng			m-Own	2 3	Own	-		45/10 46/9		TT	1	Own
	Packard	126° 136° 125 126° 133½ 116	3430 2490 2230a 2800 3600 2600	33x5.77 33x6.75 32x6.00 33x6.00 33x6.20 30x5.77 33x5 32x5.77 29x4.78	Stdd Stdd Stdd Stdd Stdd	Own	MD MD MD SP SP MD SP	5-4 5-4 1-2 5-5 2-1 8-7	83/8 83/8 73/4 81/4 101/4 117/8	6 6 5 ³ / ₄ 6 ³ / ₄ 8 ¹ / ₄ 7 ¹ / ₄	Own	Eng. Eng. Eng. Eng. Eng. Eng. Eng. Eng.	3 3 3 3 3 3 3 3	3.62 3.11 3.33 3.33 3.11 3.45 3.33	m-Mec. m-Mec. m-Mec. m-Uni. m-Spi. m-Uni. m-Spi. m-Spi. m-Own.	1 1 2 2 2 2	Own	12F 12F 12F 12F 12F 12F	SB SB SB SB SB SB	56/12° 56/12° 53/11 49/10 53/12 49/11 60/14 49/11	Spr Spr Spr	Spr TA Spr TA Spr TA Spr TA TA TA TTA	10 10 9 9	Own Own B-L Eat. Tim Coi. Own Tim
The same of the sa	Ree	131 131 117 121½ 115 138° 128	2530 2210 2550 3700	32x6.20 32x4.2 31x5.21 33x6.00 31x5.21 32x4.3 32x4.3 32x6.20	Stdd Stdd Stdd	Ful SC-12	SP SP SP SP SP SP	7-6 6-5 2-1 3-2 2-1 2-1 5-5 2-1 1-1	8 81/2 93/4 73/4 97/8 97/8 81/2	6 61/4 7 53/4 63/4 63/4 63/4		Sep Eng Eng Eng Eng Eng Eng	3 3 3 4	3.11 3.11 3.29 3.29 3.87	m°-Own. m-Spi. m-Spi. m-Mec. f-Uni. f-M&E. f-M&E. f-Uni. m-Own.	1 2 2 2	Own Col Col Col Sal Tim Tim Sal Own	FF KFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	SB SB SB SB SB SB SB SB SB SB	47/10 Var 47/10 47/10 51/11 49/11 49/11 49/12 52/14	Spr. Spr. Spr. Spr. Spr. Spr. Spr. TT	Spr Spr Spr Spr Spr Spr Spr Spr TT	10 1016	Own Col. Col. Fro. B-L. Sal. Tim. Sal. Own
	Stanley 4M Star 4M Star 6 Stearns-Knight B Stearns-Knight C Stearns-Knight C Stearns-Duryea G Studebaker St. 6 Studebaker Sp. 6 Studebaker Big 6 Studebaker AA	107 119 121 130 138 113 120	2900 3000 3350 2090 2595 2660°	33x5 31x5.24 32x6.20 32x6.20	Stdd Stdd Stdd	None Own Own M&E	SP SP MD MD MD SP SP SP	2-1 2-1 2-1 7-8 2-1 2-1 2-1 2-1	9½ 11¾ 9½ 11¾ 8½ 10 12	61/ 81/ 68/ 81/ 61/ 71/ 88/ 88/	None Own	Sep. Eng. Eng. Eng. Eng. Eng. Eng. Eng. Eng	1 3 3 3 3 3 3 3 3 3 3 3 3	3.32 3.01 3.01 3.01 4.01 3.24 3.24 3.24	f-Thm m°-Spi f-Cli f-Cli m-Spi f-Thm m-Spi m-Spi m-Mec	1 2 2 2 2 1 1 1 2 2 1	Own. Own. Own. Own. Own. Own. Own. Own.	KF KF KF KF	SB SB SB SB SB SB SB	49/10 49/10 45/12 46/11	Spr Spr Spr	Spr Spr Spr TA TA TA Spr Spr Spr Spr Spr	814 8 10 10	Own. Own. Own. Own. Own.
	Velie. 60 Wills St. Claire B&C68 Wills St. Claire T&W6 Willys-Knight. 70 Willys-Knight. 66	127 127 11314	2250 2395 2892	33x6.0 30x5.2	0 Stdd	B&BDI Own Own B&B	SP SP	1-1	97/8 12 12 7	9	MecOwnOwnOwnOwn	Eng Eng Eng Eng	. 3 . 3 . 3 . 3	4.90 4.90 3.14	m-Cle m-Spi m-Spi m-Mec.		OwnTimOwnOwn	WF WF WF	SB SB SB	47/10 49/11 49/11 46/9	Spr Spr Spr Spr	Spr Spr Spr Spr	9%	B-L. Tin. Tin. Ovs. Ovs.

*ABBREVIATIONS:

*—At Extra Cost

**—Standard on Coupe, Sedan and Landau Sedan ††—Standard on Phaeton Model

*—Others Furnished
a—Under Front Axle
b—Touring Car Complete
A—Artillery
Ada—Adams
Alem—Alemite
Arc—Archibald
B&B—Borg & Beck
B-I—Brown-Lipe
Bij—Bijur

Bim—Bimel
BLC—Brown Lipe Chapin
B-Fw—Both Internal and
External Four Wheels
Bow—Bowen
BPS—Bevel Pinion and
Sectors

BPS—Bevel Pinion at Sector Bud—Budd Buf—Buffalo Byn—Bynum Cam—Campbell CAS—CAS Products CI—Clincher Cle—Cleveland CII—Climax

C&L—Cam and Lever
CM—Central Magazine
Co—Cone
Col—Columbia
D—Disk
Det—Detroit
DH—Direct Hydraulic
Dis—Disteel
Dit—Ditweiler
DM—Direct Mechanical
Dur—Durston
Eat—Eaton
Ell—Elliott
Eng—Unit with Engine
Ex-Dr—External Driveshaft

Ex-Fw—External Four Wheels
ExRw—External Rear Wheel
f—Fabric
FE—Full Elliptic
FF—Full Floating
Fir—Firestone
Fil—Filnt
Full—Fuller
Gem—Gemmer
GC—Grease Cup
Har—Hartford
Hay—Hayes
HBD—Hoops Bros. and
Darlington
Hoo—Hoosier

Hou—Houk
Hyd—Hydraulic
I—"I" Section
InFw—Internal Four Wheels
In-Rw—Internal Rear Wheels
Ind—Indestructible
Jac—Jacox
Jax—Jaxon
Justric
Kel—Kelsey
Lav—Lavine
Lon—Long
m—Metal
Mag—Magazine
MD—Multiple Disk

American Electric

				GENERA	L						BA	TTERY			PERFO	RMANC
MAKE AND MODEL	Body Type	Number ef Pas- sengers	Price Com- plete	Price With- out Battery	Wheel- base (Ins.)	Tread (Ins.)	Tire Size (Ins.)	Weight Com- plete (Lbs.)	Make	Model	Price	Voltage	Ampere Hour Capacity	Location	Miles per Charge with Full Load	Speed withfu Load (M.P.)
	Coupe Taxicab Brougham Sedan	4 5 4 4	\$2800 2900 4250 5000	\$2500 2550 Var Var	100 112 102 102	56 56 56 56	32x4 25x5.77 32x4½ 32x4½	3385 4775 4200 Var	Phileo	Thin Plate PX PX PX	400 Var Var	84 95	153 180 180 180	14UH & 14RC 14UH & 14RC 14UH & 14RC 14UH & 14RC	80-100 60-100 60-100 60-100	26 25 25-26 25-26

ABBREVIATIONS: Art—Artillery

Gen. Elec.—General Electric Phila.—Philadelphia

Tor Arm—Torque Arm Under F—Under Floor

Under S-Under Seat Unit with J. S-Unit with Jackshaft

tries

Minimum Road Clearance (In.) Differential Make

10 Own. 10 Own. 9 B-L. 9 Eat. 9 Col... 9 Own. 91₂ Tin.

our Wheels Rear Wheels le

ctric

ERFORMANCE

25-25 25-25 25-25

vith Jackshaft

26

Chassis Specifications

For Body and Equipment Specifications see pages 274-275-276

		BRAK	ES				FRO	ONT	AXLE		ST	EERIN	G GEAF	1		SPR	INGS		FR	AME	CHAS		R	IMS	Wi	IEELS	
_	Foo	ot		Han	d ·				ion of				Steering Gr. to Locked oad Wheels	-		Front		Rear			CATI	ON					
Type and Location	Braking Area (Sq. In.)	Application	Optional Four Wheel Brakes	Type and Lecation	Braking Area (Sq.In.)	Shackles Type	Make	Axle Section Type	Transverse Inclination Steering Pivots (Deg.)	Axle End Type	Make	Type	FRev. of Locked ons of R	Minimum Turning Circle Diameter (ft.)		Length and Width (In.)	Туре	Length and Width (In.)	Material	Make	Make	Туре	Type	Make	Туре	Make	MAKE AND MODEL
	9314 D	ом	N.P	In-Rw	68	M.	Own	I		Е1	Own	Pla			Spe.		Spe.	52 x2	PS		Own	OG.	88	Hay	A	Нау	Overland9
Ex-Ru	-			Ex-Dr	1	M.	Own	I		El	Own	W&W.			½E.	34¾x2	⅓E.	52½x2	PS		Alem	PG.	88	Hayo	D°	Hay°	Overland93
B-Fw. B-Fw. Ex-Fw Ex-Fw Ex-Fw Ex-Fw Ex-Rv In-Fw Ex-Rv	324 D 296 D 252 D 323 D 290 D 332 D 232 D	DM DH DH DH DM	Stdd Stdd Stdd Stdd Mec* Stdd	In-Rw In-Rw Ex-Dr In-Rw In-Rw Ex-Dr In-Rw In-Rw In-Rw	127 4914 136 220 178 116	M. M. M. M. M. M.	Own Sal Eat Tim Col Own	I I I I	1 7 6 6 9 3	RE. RE. El RE. El	Ross	W&S W&S C&L C&L S&N	21/2 23/4	43 40 45 43	1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	38 x2 38 x2¼ 41 x2¼ 37¾x2 40½x2 38 x2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	56 x2\frac{1}{56} x2\frac{1}{56} x2\frac{1}{58} x2\frac{1}{56} x2\frac{1}{54} x2\frac{1}{54} x2\frac{1}{54} x2\frac{1}{52} x2\frac{1}{56} x2\frac{1}{52} x2\frac{1}{54} x1\frac{1}{4} x1\frac{1}{4} x1\frac{1}{4} x1\frac{1}{4} x2\frac{1}{4} x2	PS PS PS PS PS	Mid Mid P&B P&B P&B	Zerk Alem Alem Alem Zerk	Mag PG. PG. PG. PG. PG.	SS SS SS SS	Dis Jax Fir Fir Fir Rud	D A D A A	Mot Mot Mot Own	Packard Packard Paige .24-2! Peerless .6-7! Poerless .8-4* Peerless .6-8! Pierce Arrow .3. Pierce Arrow .8 Pentiac .5i
In-Fu In-Fu Ex-Fu Ex-Ri Ex-Ri Ex-Fu	7. 396 I 7. 216 I 7. 113 I 7. 113 I 8. 223 I 8. 223 I	DM DM DM DM DH DH	Stdd Stdd Stdd Stdd Mec* Mec*	In-Rw Ex-Dr Ex-Rw Ex-Dr Ex-Dr In-Rw In-Rw Ex-Dr In-Rw	561/4 180 48 48 50 185	V V M. M. M. M.	Own Col Col Col Sal Tim Sal Own	I I I I I	0 21/2 21/2	EI EI RE. RE.	Jac	W&S W&S W&S S&N S&N S&N	13/4 Var. Var. 21/4 21/4	43 43	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	39 x2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. Ca. Ca.	60 x2½ 57 x2½ 59 x2½ 52 x2 55¾x2	PS PS PS PS PS PS	Mid Mid San P&B	Own Alem Alem Alem Alem Alem	OC. OC. PG. PG. PG. PG.	SS SS SS SS SS	Fir Kel Kel Fir Hay Fir	A A O W O	Fir Han Kel Kel Ind Hay Ind	Res. T Revere. 2: Revere. M Rickenbacker. B Roamer. 6-54 Roamer 4-75 Roamer 8-8-8 Rolls Royce. "SGh
Ex-F Ex-R Ex-R Ex-R Ex-R Ex-R Ex-R Ex-R Ex-R	w. 150 l w. 116 l w. 320 s w. 320 s w. 320 s w. 250 l w. 202 l w. 230 s w. 230 s	DM SM SM SM DM DM DM	N.P Hyd* Hyd*. Hyd*. N.P Hyd*.	In-Rw In-Rw In-Rw In-Rw In-Rw In-Rw In-Rw Ex-Dr Ex-Dr Ex-Dr	124 108 135/8 160 160 230 50 74 74	M. M. M. M. M.	Own	I I I I I	71/2 71/2 71/2 71/2 2	RE.	Ross Ross Ross Ross Own Own	W&W. C&L C&L C&L C&L W&W. W&W. W&W.	1.7 21/8 21/8 21/8	40	1/2E.	40 x2½ 3578x134 3578x134 40½x2½ 40½x2½ 45½x2½ 45½x2½ 36½x2 38 x2 38 x2 38 x2 38 x2 38 x2	%E.	59½x2¼ 50½x2	PS	P&B Hyd Mid Mid P&B	Dot Alem Alem	PG. PG. PG. PG. PG. PG.	SS SS SS SS SS	Hay° Bim° Fir Fir Fir Kel Kel Kel	A A A A A	Mut Mut Arc Kel Kel	Stanley Star
Ex-F Ex-F Ex-F B-F	w. 323 w. 323	DH DH DM	Stdd	Ex-Dr Ex-Dr Ex-Dr Ex-Dr In-Rw	721/	M. M.	Own	I	71/2	RE. RE.	Ross Own Own Own	C&L. W&G. W&G. W&G. W&S.	21/4 3 3 2 2	351/	1/2E. 1/2E.	363/8x13/4 36 x2 36 x2 343/4x2 361/2x21/4	1/2E. 1/2E.	58 x21/4 58 x21/4 521/5x2	PS	Mid Mid Own	Alem.	PG. PG.	SS SS	Jax Budd. Budd. Hay	D D A	Budd	Velie

M&E—Merchant & Evans
Mec—Mechanics
Mid—Midwest
MO—Multiple Disk in Oil
Mot—Motor Wheel
Mun—Muncie
Mur—Murray
Mut—Mutual
NP—No Provisions
North—Northway
OC—Oil Cups
OW—Oil Cup with Wick
O—Optional

O—Optional
Opt—Optional

PG—Pressure Gun
PJ—Phineas Jones
PS—Pressed Steel
P&B—Parish & Bingham
Par—Parish Corp.
Pet—Peters
Pic—Pick
Pla—Planetary
P—Platform
O—Special
R—Rubber
RA—Rear Axle
RE—Reverse Elliott
RR—Radius Rods

RW—Rudge Whitworth
Roc—Rockford
Ros—Ross
Rub—Rubsam
SB—Spiral Bevel
SO—Single Plate in Oil
SP—Single Dry Plate
Spec—Special
SS—Straight Side
S&N—Screw and Nut
Sal—Salisbury
Sav—Savage
Sep—Separate Unit
Smi—Smith

Spi—Spicer Spr—Springs

Spi—Spicer
Spr—Springs
Sta
Std
Std
StdM—St. Marys
Ste—Sterling
T—Tubular
TA—Torque Arm
TB—Straight Bevel
TT—Torque Tube
Tua—Tuar
Ty/E—½ Transverse
Elliptic
The—Thermoid

Thi—Thiemer
Tim—Timken
TX—Transverse "X" Shape
Uni—Universal
Var—Various
W—Wire
War—Warner Gear
W-C—Warner Corp.
Wd—Wood
W&S—Worm and Sector
W&W—Worm and Wheel
½ E—½ Elliptic
½ F—½ Floating
¾ F—¾ Floating

Car Specifications

		MOTOR			C	ONTROLLE	R			DRIV	E		SPRI	NGS		
Make	Model	Number	Total Horse Power	Location	Make	Location	Number of For- ward Speeds	Type of Final Drive	Type of Rear Azie	Total Reduc- tion (Motor to Wheels)	Propul- sion Taken by	Torque Taken by	Type Frent	Type Rear	Wheels (Stan- dard Equip- ment)	MAKE AND MODEL
Roth. Gen. Elec. Own. Own.	22-17 1022 B-68 8-66	1 1 1 1	3 31/4 31/4	On Frame Unit with J.S Under F Under F	Own Gen. Elec Own Own	Under S	5 4 5 5	Bevel Worm	Float. Float. Float. Float.	8.60	Springs Springs Springs Springs	Springs Springs Tor. Arm Tor. Arm	KEII KEII KEII KEII	14EII 14EII 14EII 14EII	Wood Disk Art	Detroit

Var-Varies according to make of battery employed

½ U. H. and ½ R. C—½ under hood and ½ rear compartment ;—Make optional

American Passenger Car Especifications see pages 266-267-268-269

For	Detailed	Chassis	Specifications	999	nages	266-267-268-269
ror	Detailed	Chassis	Specifications	see	pages	200-201-200-20

		1						1					-	Fran	End				1	.51		1		Conne	atina				_
				Ra	ting			pur es	Cr	ankca	**	Val	ves		ive		Pis	tens		Sove P	Piston P	ins		Re	ds				Cresi
MAKE AND MODEL	Make and Model	No. of Cyls. Bore and Stroke (In.)	Herse Power (N.A.C.C.)	Pisten Displacement (Cu. In.)	Compression Ratio	Max. Brake H.P. at Specified R.P.M.	Type Point Sussension	P.	Vith	Upper Half	Lower Half	1	Head Material	1	Make of Chain or Location of Non- Metallic Gear	Material	Length (In.)	Weight (Compl. Oz.)	Distance from Pin Center to Top of Head	No. Rings and No. Above Pin	Diameter and Length (In.)	Bearing In	Material	Center to Center Length (In.)	Weight (Compl. Or.	Bearings Poured or Separate?	Offset?	Counterbalances Used?	Diameter and Length (In.)
person	Lyc 2-H. LycCI	6-3 16 x 41/4	21.60 24.40 31.25 21.03 25.35 33.80	206.7	4.7	40-2400 46-2500 65-3000 42-2200 55-3000 74-2900		4 D-6. 3 D-6. 3 D-8. 3 D-4. 3 D-6. 3 D-8.		Ir Ir Ir Ir Ir	PS PS PS PS PS	L. L. L. L.	CI Tun Sil CI Sil	CT.	Cra Cam. L-B Cra MOR L-B	AlT.	4.12	26 0		3-3 3-2 3- 4- 4-4 4-4	.75x2.13 .87x2.87 .87x2.87 1.12x2.90 .87x2.87 .87x2.87	Rod Rod Flo. Rod	Car. Car. Car.	8.12 9.0 12.0 9.0	33.0 36.0 37.0 50.0 42.0 42.0		No.	No No No No No	.00x1.0
ickMasterickStandare			29.40	274.0 207.0	4.2	75-2800 65-2800	V.	3 D-6 3 D-6	Sep.	Ir	PS.	I.	Sil†.	He He	Cam.	CI	4.25 3.81		2.19 2.25	3-3 3-3	.87x3.06 .75x2.69	Pis Pis	Car.	10.75 10.0		Pou.	No.	No 5	95-15
dillac	Own 31	8-31/8x51/8		314.4 241.4 331.3 288.5 170.9 185.8 218.5 288.5 180.1 218.5 441.7	4.2 4.3 4.3 4.7	56-2300 70-2400 55-2800 26-2000 38-2800 68-3000 92-3000 45-2800 90-2400	X V. V. V. V. V. V. V. V. V. V. V. V. V.	3 D-4 3 D-6 3 D-6 4 D-6 3 D-4 4 D-6 4 D-6 4 D-6 4 D-4	Sep. Sep. Sep. Sep. Int. Int. Int. Int. Sep. Sep. Sep. Sep.	Al Al Al Ir Ir Ir CI CI Al	Al PS PS PS PS PS PS PS PS PS	L. L. L. L. L. L. L. L. L.	Sil Car. ChN CI Sil Sil Sil Sil	Ch He Ch He Ch Ch Ch Ch	MOR Idler. Idler. MOR None Cra. MOR MOR MOR MOR	CI CI CI CI AI AI° CI CI	3.31 4.09 4.50 4.50 3.62 4.25 3.69 4.00 2.84 4.25 4.12	21.6 35.0 46.2 41 15.5 12.9 20.0 28.0 37.0	2.00 1.87 2.00 2.00 2.12 2.22 2.37 2.25	3-3 3-3 3-3 3-2 3-3 3- 3-3 3-3 3-3 3-3	.75x3.00 .87x3.06 1.12x3.37 1.09x3.06 .85x3.81 .75x3.00 .81x2.81 1.00x3.25 .87x2.50 .97x2.72	Pis Rod Rod Pis Pis Pis Pis	ASt.	11.0 10.50	18.9 52.0	Pou.	No	No.	3741
gmar. 6-6 gmar. 6-7 vis 9 vis 9 na Str. dge Brothers sesenberg Str. Pent A-2	0 Lyc 4 0 Cont	S 6-314x41/2 J 6-334x4 U 6-314x45/5 L 6-234x43/4 Z 8-3 x41/4 . 4-374x41/2 A 8-274x5 Y 6-334x5 c. 4-374x41/4	25.38 33.78 25.38 18.18 28.80 24.00 26.48 27.36 24.00	259.6 268.3 200.8	4.4 4.5 4.0 5.0 4.8	35-200 100-360 75-300 37-210	0 V. 0 V. 0 V. 0 V. 0 V. 0 V. 0 V. 0 V.	3 D-6 3 D-6 4 D-6 3 D-6 3 D-8 3 D-8 3 D-6 4 D-6	Sep Sep Int. Int. Int. Int. Int. Int.	IrAlIrIrIrIrIrIr	PS. PS. PS. Al. Al. PS.	L.L.L.L.L.	Sil ChN Sil NS Sil Sil CI°	Ch Ch Ch Ch He Sp Ch He	L-B Idler. MOR MOR MOR NOR L-B None	CI CI CI Al CI CI	3.50 4.50 3.75 3.37 4.37 3.50 4.00 4.12	30.0 46.2 520.0 730.0 728.0 12.	1.75 2.00 1.87	4-4 3-3 3-2 3- 3- 4-4 4-4 3-3 3-3	.87x2.87 1.12x3.37 1.00x2.81 .73x— .86x .81x3.62 75x2.50 1.06x3.12 .85x3.44	Rod Rod Rod Pis. Rod	Car. Car. Car. Car. Car. ASt. ASt. ASt. Car.	9.00 9.00 9.00 9.12 9.73 12.00 8.00	37.00 74.0 37.0 24.0 24.0 5 32.0 5 59.0	Pou. Pou. Pou. Pou. Sep. O Sep. Pou	No. No. No. No. No. No. No.	No No No No No No No	2 . 12a 1 2 . 57a 1 2 . 12a 1 3 . 12a 1 3 . 12a 1 3 . 12a 1 4 . 12a 1 5 . 12a 1 5 . 12a 1 5 . 12a 1 6 . 12a 1 7 . 12
car 4-5 car 6-6 car 8-6 int Jr int 6 int 6	Lye4 6 Own	S 6-31/4x41/4 H 8-31/4x41/4 6 6-21/4x41/4	18.14 25.3	3 206.4 195.8 0 297.2 144.6 5 169.2 5 230.0	4.5	40-230 56-260	0 V. 0 V. V.	3 D-4 3 D-6 4 D-6 4 D-6 4 D-6 3 D-4 3 I-1	i. Sep Int	CI.	CI.	L.	Tur	Ch					1.69	3-3	.73x2.3	Rocal	Car. Car. Car. d Car.	9.00 9.00 8.31 9.0 9.00	0 42.0 0 42.0 1 24.0	Pou	No. No. No.	No. No. Yes. No. No.	12al 12al 10al
ord	A Own11	T 4-3%x4 A 6-31/4x4	25.3	4 268.4 0 176.7 5 198.0 5 223.8 5 276.1	3.9	33-220				1	1		1 /			1	1	1 36 4 18 0 25.0	2.44 1.94 2.25	3-3 3-2 4-4 4-4 4-4 3-2	.87x2.8	Pis. Roc	Car. Dur d Car.	9.00			No.	No. No. No. No. No. No. No.	
ertzE udsenSuper upmebileA upmebileE	Cont. 18	U 6-314x45/8	25.3 29.4	3 165.2 5 195.1 288.4 4 195.4 0 268.3	3.6	21-160	0 V.	3 D-4 4 D-4	3. Int 3. Sep 3. Int	Ir o. Al. Ir	PS. PS. PS. Ir.	. L. L. L. L.	Sil.	He.	L-B. MOI MOI	e CI.	3.62 4.06 3.12	2 36.0 5 27.0	1.94 2.25 1.70	3-	1.00x2.6 1.81x2.6 .87x1.5	Pis. Roc Flo Roc Roc	d Car.	8.2 11.6 8.7	0 23.4 5	Pou Pou Sen	No.	No. No. Yes. No.	加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加加
ewett New-Do ordan Series ordan Series	1	6. 6-2%x4% 6. 8-3 x4% 6. 8-2%x4% 6. 8-2%x4%	1			40-240 74-300 64-300 53-230	0 V.		s. Int	88.	. PS.	. L.		Ch.	MOI	CI.	3.7	2	1.94	3-3	.86x2.5 .86x2.2	6 Ro	d ASt	9.7	5	Pou Pou Pou	No.	No.	
issel	5 Own	75 N-316 X4 1/2	32.0	0310.0		71-300	0 V.	3 D-	3. Int	Ir	. Al.	. L.	Sil.	. Ch.	L-B.	. Al.	3.5	0 17	1.94	3-		7 Pis.	Lyn	9.0	0 25	Pou	No.	No. No. No. No. No.	
larmen	74 Own	74 6-394x514 Y 6-394x5 V 6-414x6 H 8-314x414 IR 6-394x414	33.7 27.3 48.6 32.5 27.3	5 339.1 4 268.1 0 572.1 8 287.1 4 241.1	7 4.3 3 4.8 5 4.3 2 4.6 3 4.2	88-280 75-300 120-240 70-300 56-230	0 V. 0 V. 0 V. 0 V. 0 V.	4 D- 3 D- 4 D- 3 D- 3 D- 3 D- 3 D-	6. Ser 6. Int 3. Ser 6. Ser 6. Ser	o. Al. i Ir o. Al. o. Ir	. Al. Al. Al. P8. P8.	I.L.T.L.L.	CI. Sil. Sil. Sil. Car	He. Ch. He. Ch. He. Ch.	Cam L-B. Non L-B. Idler	Al° CI. e Al. CI. CI.	. 4.6 . 4.0 . 6.1 . 3.5 . 4.0	8 52. 0 32. 9 0 25. 9 35.	6 2.56 0 2.00 3.06 0	3-3-4-3-2	3 1.18x3.2 3 0.6x3.1 3 1.25x3.9 .87x2.8 3 .87x3.0	5 Rocal Roca	d ASt ASt Car d Car d Car	10.1 12.0 12.0 9.0	8 62. 0 59. 0 37. 0 52.	Sep Sep Pou	1		100
lashAdvance lashSpeci										1									1.62								No	No.	
laklandS IdamebileS IverlandI	6 Own	0S 6-2%x4% 30 6-2%x4% 01 4-3%x4	19.8 18.1 19.6	4 185.0 5 169.3 0 153.0 0 169.0	5.0 3 4.7	-	00 V.	3 D- 3 D- 4 D-				1									3 .75x2.4 3 .86x2.3 3 x1.8							HB. You. No. No.	dada
*More thused. *—More thused. *—Forked E Anst—Anst ASt—Alloy Au-Autom A-Bos—Am A-L—Atumin A-L—Autom ATC—Air 7	an one land ed Steel atic erican Booter Kent	ich	terial	B& R-I BZ- CA- Car Car Car Car Car Ch		all & B Robert	Bos inur it arb.) /alve	n) es)	D DC De. D- DF Dy Du	-Det -Die J-Di J-Det t-Di t-Di n-I r-E	acha tilla e ca e Jo acha etro stilla	ble tor st n ble it itor to	(He	ad)	Steel	F F F C C C C C C C C C C C C C C C C C	vi—Va ed—F i—F iPr—incl io— &T—&D	Exidalyes Federilter Ful	e in H ders l Pre g wristing and ay & an Si	ead	and Side	-	, .	Ho Ho I- s I- In	&A— ar—I e—H—Inte II e—Iro ier— im— oh—J Val B—I	Hand Harris elical Head gral ntegra	(Hea	d) "	

ABBREVIATIONS:

*—More than one kind of material used.

*—Forked End Anst—Ansted Ast—Alloy Steel Au—Automatic A-Bos—American Bosch A-K—Atwater Kent Al—Aluminum A-L—Auto-Lite ATC—Air Tube Cellular B—Battery

Ben—Bendix
B&B—Ball & Ball
R-Bos—Robert Bosch
BZ—Bronze
CA—Cast Aluminum
Cam—Camshaft
Car—Carter (Carb.)
Car—Carbon (Valves)
Cent—Centrifugal
Ch
Chain
ChN—Chrome Nickel
CI—Cast Iron
Cle—Cleveland

Cont—Continental
Cra—Crankshaft
C-V—Chrome Vanadium Steel
D—Detachable
D.—Distillator
DC—Die cast
Del—De Jon
D—Detachable (Head)
Det—Detroit
DF—Distillator and Filter
Dyn—Dyneto
Dur—Duralumin
Ec—Eccentric
Eis—Eisemann

Car Engine Specifications For Detailed Body Specifications see pages 274-275-276

	ENGINE		COOLING SYSTEM	FUEL SYSTEM			
Cresi	shaft Oilin	ing System Water Circulation	Radiator		ELECT	TRICAL SYSTEM	
Crankpie	Main Bearing	11.	1 13 1 1	Carbureter Air Cleaner	Ignition System	Generator and Starter Battery	
Counterbalances Used? Diameter and Learnth (in.)	Nambee Bissesser (In.) Length Cange and Length Cange (In.) Type	Pump Type Oil Cleaner Type Type Pump Type	Make Core Type Water Capacity (Gala, Enlire System Shell Material Thermostat	Make Size (In.) Type Make	Fuel Feed Make Current Source Spark Control	OM Capacity	KE ND DEL
No. 2 thi No. 2	4 2.37x2.00 2.37x2.31 Pr Cs.	Ge	Mod. F&T. PS. No. S Own. F&T. 7 PS. No. S Jam. Ri C. 7 PS. No. S Jam. Ri C. 434 PS. No. S Jam. Ri C. 434 PS. No. S Jam. Ri C. 434 PS. No. S Jam. Ri C. PS. No. M Jam. Ri C. PS. No. S Jam. Ri C. PS. N	A	Vac. A.L. B. Au. Vac. Remy. B. Ha. Vac. Remy. B. Au. Vac. Remy. B. Au. Vac. Remy. B. Au. Vac. Remy. B. SA. Vac. Remy. B. SA. Vac. Delco. B. SA. Vac. Delco. B. SA. Vac. Delco. B. SA. Vac. Delco. B. SA. Vac. Remy. B. SA. Fac. Remy. B. SA. Delco. Remy. B. SA. Delco. Delco. B. SA. Delco	A-L. Ben. USL. 6-92 Ajax Remy Ben. Pre. 6-112 Apperson Remy Ben. USL. 6-90 Auburn. Remy Ben. USL. 6-90 Buick Remy Ben. USL. 6-90 Buick Ben. USL. 6-90 Buick Deleo SG. Exi. 6-105 Buick Deleo Ben. Wil. 6-132 Case Ben. Wil. 6-132 Case Remy Ben. Wil. 6-136 Chandlar Remy Ben. Wil. 6-100 Chrysler Remy Ben. Wil. 6-100 Davis Remo Ben. Exi. 6-111 Dagmar Remy Ben. USL. 6-142 Diana Remy Ben. USL. 6-100 Davis Remo Ben. Wil. 6-100 Davis Remo Ben. USL. 6-84 Elear Remy Ben. USL. 6-80 Davis Remo Rem. Wil. 6-106 Elear Remo Remo Remo Remo Remo Remo Remo Remo	Str. 4-4-4-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6

and Aut

O&D—Owne Dyneto
Opt—Optional
Pre—Pressure
Pre—Pressure
Pre—Piston
Pou—Poured
PrCa—Pressure to all crankshaft and
connecting rod bearings, splash to
other parts.
Pro—Protectometer
PS—Pressed Steel
PT—Plain tube
Pu—Pump

RA—Rear Axle
RAM—Ramsey
Ray—Rayfield
R-D—Rochester-Duesenberg.
RiC—Ribbon Cellular
S—Sleeve Type
SA—Semi-Automatic
SB—Spiral Bevel (Final Drive)
SB—Sheet Brass (Radiator)
SC—Sheet Copper
Sch—Schebler
Sep—Separate
SG—Sliding Gear

Sil—Silchium
Spe
Spe
Spe
Spe
Splash
Spl—Splash
SpP—Pressure to main crankshaft
bearings only, splash to connecting
rods and other parts.
Ste—Stewart
SS—Semi Steel
Str—Stromberg
T—Valves opposite
Til—Tillotson

TS—Thermo-Siphon
Tun—Tungsten
Uni—United
US—U. S. Cartridge
V—Vertical
Vac—Vacuum
Var—Variable
Ves—Vesta
Wag—Wagner
Wes—Westinghouse
Wil—Willard
Wisc—Wisconsin
Zen—Zenith

For Detailed Chassis Specifications see pages 266-267-268-269

														EIA	GINE													
				R	ting			pue	Cri	nke	88	Valve	es		ive		Pist	ons		ovePin	Piston P	ins		Conne				(
MAKE AND MODEL	Make and Model	Ne. of Cyls. Bore and Stroke (In.)	Horse Power (N.A.C.C.)	Pisten Displacement (Cu. In.)	Compression Ratio	Max. Brake H.P. at Specified R.P.M.	Type Paint Suspension	Type	- 5	Upper Half	Lewer Half		Head Material	1	Make of Chain or Location of Non- Metalic Gear	Material	Length (In.)	Weight (Compl. Oz.)	Distance from Pin Center to Top of Head	No. Rings and No. Abo	Diameter and Length (In.)	Bearing In	Material	Center to Center Length (In.)	Weight (Compl. Oz.)	Bearings Poured or Separate?	Offset?	Used?
ckard	8 Own	8-3%x5 6-3½x5 8-3½x5 6-3½x5 6-3½x4% 6-4x5½	36.45 25.35 33.80 29.40 25.35 38.40	248.8 331.8 288.5 230.2 414.7 288.5	4.4	62-2800 84-3000 63-2800 70-2700 70-2500 54-2600 70-2600 40-2400	V. V. X V. V. V.	4 D-8 3 D-6 3 D-4 3 D-6 3 D-6 4 D-6 4 D-6	Sep. Sep. Sep. Int. Sep. Sep. Int. Sep. Sep. Int. Sep. Sep. Int.	Al Al Al Ir Al	Al Al PS Al	L. C. Si L. Si L. Si T. Si L. Si	il (Ch Ch Ch Ch Ch Ch	MOR MOR L-B. MOR MOR None L-B. MOR	CI CI CI CI CI	3.37 3.69 3.25 3.50 3.75 5.50	26 27 22 30.50 28.00	1.59 1.87 2.31 3.25 2.26	3-3 3-2 3-2 4-4 3-3	.87x3 .12 .87x2 .92 1 .00x2 .81 .87x3 .00 1 .12x3 .25 1 .00x2 .81 1 .06x3 .51 .87x3 .12	Pis Pis Rod Flo.	Car. ASt. Car. Car. ASt.	10.00 3 10.50 4 11.00 4 10.00 3 9.00 3 11.00	7 9 3 8 7	Pou. Sep. Pou. Pou Sep. Sep.	No.	es. 2.12x es. 2.12x es. 2.37x es. 2.12x es. 2.12x o. 2.12x o. 2.25x o. 2.00x 200x
se Travare 2 svere 2 svere 1 ckenbacker Baamer 6-5 samer 8-8 samer 6-54 olis Royce S, G	S Cont . 6-J M Own M E Own E 8 Own B- 6 Cont 7U 8 Lyc 3H E R-D G-1 E Cont 9N	6-3%x5 4-4%x6 6-3%x4% 8-3%x4% 6-3%x4% 4-4%x6 6-3%x5%	30.63 25.35 33.80 23.44 32.52 28.90 29.40	331.4 361.0 236.4 315.2 195.8 287.2	4.3 4.7 4.7 4.5 4.5 4.5	67-3000 105-3000 49-2500 63-3000 78-2400 50-2000	V. V. V. V. V. V.	3 D-6 3 D-4 4 D-8 3 D-8 3 D-8 3 I-4. 3 I-6.	Int. Sep. Int. Int. Int. Sep. Sep. Sep. Sep.	Ir CI Cr Ir Al.	PS. Al. PS. Al. PS.	L. C. L. Si H. T. L. A	hN II	He Ch Ch Ch Ch Ch	Cra. Idler. MOR MOR MOR L-B. MOR All. None	CI CI CI CI CI CI	4.50 4.06 4.06 3.25 3.50 4.75 4.50	32.00 32 27.0 30.0 43.5 43.0	1.81 1.81 1.93	3-3 3-2 4-3 4-3 3-3 4-4 3-1 3-1	.87x2.87 .25x3.75	Rod Pis Rod Pis Pis Rod	Car. ASt. Car. Car. Car. Car. Car.	11.00 7 12.00 . 10.00 3 10.00 3 8.25 3 9.00 4 12.00 6	33 33 32.0 12.0 34.0	Pou. Pou. Pou. Pou.	No.	0. 2.25x 0. 2.37x 0. 2.00x 0. 2.00x 0. 2.00x 0. 2.12x es. 2.31x 0. 2.37x 0. 2.37x
tar	R Cont.Spec. B Own	6-234x434 4-334x558 6-314x5 6-312x5 6-47x512 6-38x412 6-312x5 6-374x5	18.15 22.50 25.35 29.40 47.27 27.34 29.40 36.04	3 158.6 5 169.2 0 248.5 5 248.5 0 288.7 7 510.4 2 241.0 0 288.4 3 353.2 2 287.	2 5 4.5 8 4.6 5 4.9 4 4 4.5 5 4.5 8 4.5	55-2400 76-2400 50-2200 65-2400 75-2400	V. V. V. V. V.	4 D-6 3 D-6 3 D-6 4 I-2 3 D-6 4 D-6	Int. Int. Sep Sep Sep Sep Int. Sep Sep Int.	Ir CI. CI. Al. Al. Ir	PS. PS. PS. Al. PS. PS.	S. N. S. N. L. C. L. C. L. C. C. L. C.	No No Fun	Ch Ch Ch He He	RAM Cam. L-B None None	CI CI CI CI	3.37 4.47 4.03 4.31 3.87 3.87 4.68 4.68	39.0 32.0 39	1.94 2.59 2.12 2.50	4-4 3-3 4-3 4-3 4-3	1.00x4.00 .87x 1.00x	Pis Pis Rod Pis Pis	Car. Car. Car. ASt. ASt. ASt. ASt.	8.00 12.37 11. 12.06 11.62 10.00 11.25 11.25	58.00 53 58 57	Pou. Pou. Pou. Pou. Pou. Pou. Pou.	No. 1 .25 .19 No. 1 No. 1 No. 1 No. 1	0. 1.50cl 0. 2.00cl es. 2.25cl 0. 2.37cl 0. 2.00cl 0. 2.00cl 0. 2.31cl 0. 2.31cl 0. 2.31cl
Velie	68 Own .C-68 -6 OwnW-6	8 8-31/4x4 6 6-31/4x51/2 6 6-31/4x43/4	33.80 25.31 25.31	0 265 . 5 273 . 5 236 .	5 4.1 7 4.0 4	65-270 66-330 60-280	X	4 I-4 4 D-	Sep 3. Int. 3. Sep 5. Sep 6. Sep	Al.	Al.	I. 9	Sil Non	He He	Idler. None L-B.	CI.	3.67	27 27	2.12 1.84 1.84 2.00	3-2 3-2 4-4	.75x3.06	Rod Rod Pis	ASt. Lyn Car.	8.00 11.00 11.50	24.00 27.25	Sep. DC. Pou.	No! No!	es. 1.75d o. 2.25d o. 2.12d

*--More than one kind of material used. --Forked End..

*—Forked End..

Anst—Ansted
Ast—Alloy Steel
Au—Automatic
A-Bos—American Bosch
A-K—Atwater-Kent -Aluminum A-L—Auto-Lite ATC—Air Tube Cellular Ben—Bendix B&B—Ball & Ball R-Bos—Robert Bosch BZ—Bronze CA—Cast Aluminum Cam—Camshaft Ca—Camshaft
Cam—Camshaft
Car—Carter (Carb.)
Car—Carbon (Valves)
Cent—Centrifugal

Cha Chain -Chrome Nickel Cont—Continental
Cra—Crankshaft
CrV—Chrome Vanadium Steel
D—Detachable
D.—Distillator
DG—Die cast

D.—Distillator
DC—Die cast
DeJ—De Jon
D—Detachable (Head)
Det—Detroit
DF—Distillator and Filter
Dyn—Dyneto
Dur—Duralumin
Fc—Ecc—Eccentric -Eccentric

-Eisemann

Exi—Exide
F—Valves in Head and Side
Fed—Fedders
Fi—Filter
FiPr—Full Pressure to all bearings including wrist pins
Fio—Floating
F&T—Fin and Tube
G&D—Gray & Davis
GS—German Silver
Ge—Gear
Gou—Gould
Ha—Hand

H&A—Hand and Auto Har—Harrison He—Helical Gear I—In Head (valves) I—Integral (Head) Int—Integral Int—Integral (Head, Int—Integral Ir—Iron Iner—Inertia Jam—Jamestown Joh—Johnson L—Valves at side

L-B—Link Belt L-N—Leece-Neville

Effect of Speed on Fuel and Oil Consumption

STUDY of the effect of an increase in maximum speed on the fuel and oil consumption of motor omnibuses has been made by M. A. Banlier, chief engineer in charge of buses of the Societe des Transports en Commun of Paris. The buses to which the study related are those in the class of 9,900 to 17,600 lbs. weight, which the regulations permit to operate at maximum speeds of 15.6 and 22 m.p.h. on solid and pneumatic tires, respectively. The problem to be studied was whether this legally permitted speed increase of 6.4 m.p.h. offered any advantage to the operating company.

It was found first of all that speedy buses are of no advantage in congested districts with numerous stopping points. For instance, on the Passy-Bourse line there are parallel services of ordinary and express buses. The schedule time for the former is 32 and for the latter 24 minutes, but the actual time during the afternoon was 37 minutes for the former and 29 minutes for the latter, notwithstanding the fact that the ordinary bu had 30 schedule stops and the express bus only 6. The problem therefore relates really only to suburba services.

In order to study the influence of the average speed on the cost per bus-mile, the expenses must be divide into three classes:

1. Expenses independent of average speed, such maintenance of the general office, taxes, pension fund general garage expenses, etc.

2. Expenses varying inversely as the average special such as wages of operators, interest charges, etc.

3. Expenses varying directly as the speed, such accidents, lubricant, fuel, maintenance cost.

The percentages of the total expenses coming under the different headings are 23.5, 36.9 respectively. comparison of the two last figures seems to indicate the the influence of speed is practically nil from the point of view, but under the expenses of the secon class there are entered the expenses due to the roll

Lyc-Lyn-m-ma M-M: Mag-Mar-McC-Mod-MOR-Nat-N N-E-N Nic-N person make On al

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Diameter and Length (In.)

Yes. 2 12x1 % Yes. 2 12x1 % Yes. 2 37x1 % Yes. 2 12x3 % Yes. 2 12x3 % No. 2 12x1 % No. 2 25x1 % No. 2 00x1 %

No. 2.0018 No. 2.0018 No. 2.0018 No. 2.21218 S Yes 2.3128 No. 2.3718 No. 2.3718

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Engine Specifications For Detailed Body Specifications see pages 274-275-276

	ENGIN	E					COOL	ING ST	STEM	1			FU	EL SYS	STEM				ELEC	TRIC	SYSTE	M		
shaft		Oili	ng Sy	stem		ater dation	1		Radiate	or		Ca	rbure	ter	Air C	leaner	Ignit	ien S	ystem		erator Starter	Bat	tery	
Main	Bearing			1				1	3	1	Ī					1					1 =			******
Frent	Rear			r Type					Capacity(Gals.) System	Material								onice	lor		Engagemen		e and Amp-	MAKE AND MODEL
Number Diameter and Length (In.)	Diameter and Length (In.)	Туре	Pump Type	Oil Cleaner	Туре	Pump Type	Make	Care Type	Water Capa Entire Syst	Shell Ma	Thermosta	Make	Size (In.)	Туре	Make	Fuel Feed	Make	Current Se	Spark Control	Make	Starter En	Make	Voltage and Hours Cap	
7 2.37x2.56 9 2.37x2.93 2.39x2.34 3 2.25x2.80 7 2.37x2.56 7 2.37x1.78 7 2.25x2.75	2.37x2.50 2.37x2.50 2.36x2.66 2.25x3.64 2.37x2.87	Fl Pr. Fl Pr. Fl Pr. Pr Cs. Fl Pr. Fl Pr. Fl Pr.	Ge Ge Ge Ge Ge	Di No Fi Fi No	Pu Pu Pu Pu Pu	Cent. Cent. Cent. Cent. Cent.	Fed Nat Har Har	Ri C Ri C ATC ATC ATC	41/4 6 7 41/2 31/2 61/2	PS PS PS PS NS	Yes Yes Yes No No Yes Yes No	Str Str Str Joh Str Own	17/8 11/4 11/4 11/4 11/4 2 14/8	None Iner None	None.	Vac Vac Vac Vac Pre Vac	Delco. A-K. Delco. Delco. A-L. Delco. Delco. Remy	B B B B B	H&S SA SA SA SA	Dyn. Remy Delco Delco A-L.	. SG	Pre Wes Exi Exi USL Wil	6-112 6-160 6-115 6-100 6-100 6- 6-150 6-111	Packard 8 Packard 28 Paige 24-26 Peerless 8-69 Peerless 6-72 Peerless 6-80 Pierce Arrow 30 Pontiac Six
4 2.37x2.34 2 2.56x1.47 9 2.56x1.47 4 2.00x1.50 5 2.37x2.68 3 2.31x4.00 3 2.37x2.75	2.25x3.62 2.37x3.06 2.56x2.25 2.56x2.25 2.00x2.12 2.37x2.68 2.31x4.31 2.28x3.15 2.25x3.75	Pr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs.	Ge. Ge. Ge. Ge. Ge.	No Di No No No	Pu Pu Pu Pu Pu	Cent. Vane. Vane. Cent. Cent.	Fed Fed McC. Mod Mod Mod	Ri C Ri C Ri C Ri C Ri C Ri C	31/2	Ca Ca PS PS SB SB	No No	Sch Str Str Zen Sch Sch	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	None Iner Iner None	None. Det None. None.	Vac Vac Vac Vac Vac Vac Vac Vac Vac	N-E RBos ABos Delco Spl Spl Spl ABos	M	SA SA Ha Ha Ha	Wes ABos. ABos. A-L A-L Wes	Ben Ben SG SG Ben Ben Ben Ben	Pre USL USL Pre Pre	6-160 6-160 6-106 6-166 6-92 6-112 6-112 6-112	Reo
4 2.12x1.37 3 2.50x2.37 4 2.37x2.37 4 2.50x2.37 4 2.37x2.12 4 1.94x2.97 4 2.47x2.50 4 2.47x2.50	2.37x3.87 2.12x2.81 2.56x3.06	Fl Pr. Pr Cs. Pr Cs. Pr Cs. Sp Pr. Fl Pr. Fl Pr. Fl Pr.	Ge. Ge. Ge. Ge. Ge. Ge.	No No No No Fi	PuPuPuPuPuPuPuPuPuPuPuPuPuPu	Cent. Vane. Vane. Cent. Cent. Cent. Cent.	Fed Fed Fed Fed G&O Var Var Var Fed	Ri C. ATC. ATC. ATC. F&T. F&T. F&T.	41/6	PS	No No No Yes No No	Joh Joh Str	1½ 1½ 1½ 1½ 1½ 1	None. None. None. None. Cent. Cent. Cent.	None. None. None. None. None. Han. Han.	Vac Vac Vac Vac Vac Vac Vac Vac Vac	RBos. Remy Wag	B B B M B B	Ha	DeJ DeJ RBos. Wag° Remy Remy	Ben. Ben. Ben. Ben. Ben. Ben. Ch. SG.	. Wil	6-166 6-90 6-111 6-111	Star
3 1.75x2.25 7 2.50x1.56 7 2.50x1.66	2.75x2.62 1.75x3.50 2.50x2.81 2.50x2.75 2.25x2.50	Fl Pr. Fl Pr. Pr Cs	Ge Ge	No No Di	Pu	Cent.	McC. Own.	Det	8	PS	Yes	Str Sch Til Til	1½ 1 ± 1½ 1½ 1½	None. None. None. Str.	None. None. None. Pro.	Vac Pre Vac	Delco	B B B	. Au : SA	Delco Delco DeJ	Ben SG SG Ben Ben	Wil	6-132 6-132 6-166	Velie
Lyn—L m—me M—Ma Mag—l Mar—l	tal gneto Magnetic		Opt Pre Pre Pi,	D—Ov t—Opt —Pres —Pres Pis—	ional sure itolite Piston ired			ahafa a		RAM- Ray- R-D- RiC-		asey eld ester-D on Cellu		nberg.		Spec Spec Spl—S SpPr-	-Press	cial	to ma		anksha	ıft	Tun- Uni- US-U V-Ve	Thermo-Siphon Tungsten United J. S. Cartridge rtical Vacuum

Mar-Maryel
McC-McCord
McC-McCord
Mod-Modine
MOR-Morse
Nat-National
N-E-North-East
Nic-Nickel
NS-Nickel Steel

Poured
PrCs—Pressure to all crankshaft and
connecting rod bearings, splash to
other parts.
Pro—Protectometer
PS—Pressed Steel
PT—Plain tube

S—Sleeve Type
SA—Semi-Automatic
SB—Spiral Bevel (Final Drive)
SB—Sheet Brass (Radiator)
SC—Sheet Copper
Sch—Schebler

Sep—Separate SG—Sliding Gear

bearings only, splash to rods and other parts.

Ste—Stewart
SS—Semi Steel
S-W—Sparks-Withington
Str—Stromberg
T—Valves opposite
TII—Tillotson

Vac—Vacuum Var—Variable Ves—Vesta Wag—Wagner Wes—Westinghouse Will—Willard Wisc—Wisconsin Zen—Zenith

personnel. This is not correct unless it is possible to make an extra trip as a result of the increased speed. On all city lines this is practically impossible, even if the buses are fitted with a more powerful engine, with pneumatic tires and with a specially geared rear axle.

Statistics covering the same periods of the years 1924 and 1925 showed that an increase in average speed of 3.2 per cent was accompanied by an increase in the number of accidents of 2.98 per cent, while the maintenance cost rose exactly 3.2 per cent.

As to the fuel and oil costs, the effect of an increase in speed on these is not so easily determined, and a series of bench tests, as well as a series of road tests, was therefore arranged. The road tests were divided into three series. The first tests were carried out with a 38-passenger ordinary bus; the second series with different buses on a city and suburban route with simulated stops, and the third series with an express bus on a comparatively unencumbered city route, with stops simulated.

The bench tests gave results tending to show that the fuel consumption increases substantially in the same

proportion as the average speed increases (3 per cent).

The first series of road tests showed that for a small increase in the average speed the increase in fuel consumption was considerable. Thus an increase in speed of 5.2 per cent entailed an increase in fuel consumption of 36.7 per cent.

The second series of tests were made on the route Paris-Versailles and back (42 stops), with an ordinary bus, a Renault express bus and a Somia express bus. It showed that a bus with a maximum speed higher than 15.6 m.p.h permits of only an insignificant gain in time on lines with frequent stops. The fuel consumption is out of proportion with the commercial speed attained.

Finally, the third series was carried out over a route with little traffic (a boulevard outside the fortifications) with 10 second stops every 1500 ft. The bus used was of the express type and its governor was adjusted so as to give, successively, 15.6, 18.8 and 22 m.p.h. bus speed. In this case again the fuel consumption increased more rapidly than the average bus speed.

Similar results were arrived at with regard to oil consumption.

Lin

Mai Mel Mel

Nash Nash Oakla

Packa Packa

Stearns K

Body and Equipment Specifications of 1925 Cars

NOTE: The body models listed below represent the lowest priced 4-5 passenger open and closed bodies fitted on each chassis

		GENI	ERAL						ВО	DY									EQUI	PME	NT			
	1		1	1 1	9				Covering	Material			7		₹~.			-	1			1		
MAKE & MODEL OF CHASSIS	Body Medel	Price \$	Wheelbase (Ins.)		Weight of Complete Car (Lbs.)	Number of Door	Bedy Framework Material	Body Panels	Rear and Quarter Sections	Upholstery	Tap	Type of Finish	Type of Windshield	Type of Wheels	Snubbers or Sho Absorbers Fitted	Bumpers	Trunk Rack	Windshield Wiper	Car Heater	Cowl Ventilator	Motometer	Dash Gas. Gage	Cigar Lighter	Lacks Fitted
Ajax	Touring	995	108 108	30x4.75 30x4.75	2410	4	Wood M & W	Steel	Steel	Leather Mohair	Im Lea. Special.		1	D	No	No	No	Yes Yes	No	Yes Yes	No	No	No	G D, G
Apperson6	Phaeton	2050	120 120	33x6.00 33x6.00 33x6.20	$\frac{3100}{3145}$	2	Wood	Steel St & F	Steel St&F	Leather	RCF	Optional Optional	1	D D	Yes Yes	No Yes	No	Yes Yes	No	Yes Yes	Yes Yes	Yes Yes	NO	D, I
Apperson8	Phaeton	1995 2450		33x6.20 33x6.20	3520 3750	4	Wood	Steel St & F	Steel St & F	Leather	Fabric	Optional Optional		D D	Yes Yes	Yes Yes	Yes No	Yes Yes	No	Yes Yes	Yes Yes	Yes Yes	No	I
Auburn4-44	Touring	1145 1195	120	30x5.25 30x5.25	44	4	Wood	Steel	Steel	Leather	RCF	Pyrox	2	A	No	No	No	Yes Yes	No	Yes	No	No	No	11
Auburn6-66	Sedan	1395	121	30x5.25	2860	4	Wood	Steel	Steel	Velour Leather	RCF	Pyrox		Α	Yes	No	No	Yes	No	Yes Yes	Yes Yes	No Yes	No	G
	Brougham	1495 1695	129	30x5.25 30x5.77	3180	4	Wood	Steel	Steel	Velour Leather	RCF	Pyrox	2	A	Yes	No	Yes No	Yes Yes	No	Yes Yes	Yes Yes	Yes Yes	No	D, G G
Auburn8-88	Brougham		129	30x5.77	3380	4	Wood	Steel	Steel	Leather	RCF.	Pyrox	2	A	Yes No	No	Yes No	Yes Yes	No	Yes Yes	Yes No	Yes No	No	D, G G
Buick Standard	Sedan	1195	1143	31x5.25	3155	2	Wood	Steel	Steel	Plush	RCF	Pyrox	1	A	No	No	No	Yes	No	No	No	No.	No	D, G
BuickMaster	Touring	1395	120 120	33x6.00 33x6.00	3670	2	Wood	Steel	Steel	Velour	RCF.	Pyrox	1	A	No	No	No	Yes	No	Yes No	No	No		G D, G
BuickMaster	Sp. Touring.	1795	128	33x6.00	3635 3855	4	Wood	Steel	Steel	Leather.	Special. RCF	Pyrox	2	A	Yes Yes	No		Yes Yes	No Yes	Yes No	Yes Yes	Yes Yes	Yes	G D, G
CadillacStd. Line	Brougham (Phaeton	2995	132	33x6.75 33x6.75	4110	2	M&W M&W	Steel	Steel	Mohair Leather.	Im Lea. Leather	Pyrox	1	A	Yes Yes		Yes Yes	Yes Yes	No	No Yes	No Yes	Yes	Yes	D, G, I, G, I, T.
CadillacCustom-built	Coupe	4000	138	33x6.75	4300	2	M & W	Steel	Steel	Mohair Leather.		Pyrox	1	A	Yes	Yes	No	Yes	No	No Yes	Yes	Yes	Y es	D, G, I,
CaseJIC	Brougham	2590	122	32x6.20 32x6.00	3650	4	M&W M&W	Steel	Steel	Optional.	RCF	Pyrox	2 2	A A	Yes Yes	No		No.	No Yes	Yes	Yes Yes	No.	No	G, I D, G, I.
Chandler35	Sp. Touring 20th Cen. Sed	1495 1590	123	33x6.00 33x6.00	3085	4	M&W	Steel	Steel	Broad		Pyrox	1	A	No	Yes	No	Yes	No	Yes	Yes	No.	No	G, I D, G
ChevroletSuperior K	Touring	510	103	30x3½	1875 2130	4	11	II	II	11	11	Pyrox	11	A A	No	No	No	No. Yes	No	No Yes	No	No.	No	I D, I
Chrysler58	Touring	845	109	30x5.25	2300	4	Wood	Steel	Steel	Leather.	RCF	Pyrox	2	A	No	No	No	Yes	No	No.	No.	No.	No	G
Chrysler70	Phaeton	1395	5 109 5 1123/	30x5.77	2510 2785	2 4	Wood	Steel	Steel	Velour Leather.	RCF	Pyrox Varnish	1	A	No		No	Yes	No	Yes No	Yes No	No Yes	No	D, G
	Coach Phaeton	2645	5 1123 5 120	30x5.77 32x6.20	2895	2	M&W.	Steel	Steel	Broad Leather.	RCF.	Pyrox	11	A	No Yes	No Yes	No	Yes Yes	No	Yes No	No	Yes No.	No Yes	D, G
Chrysler80	Sedan	3395	5 120	32x6.20	4105	4	M & W.	Steel	Steel	Broad	. ††	Pyrox	1	A	Yes	Yes	No	Yes.	Yes	No.	No	No.	Yes	D, G
Cleveland31	Sedan	1090	0 1081	30x4.75 30x4.75	2695	4	Wood	Steel	Steel	Leather.	. PvFa	Pyrox	1	A	No	No	No.	Yes	No	Yes No.	No	No.	No	D, I
Cleveland43	Sedan	1145	5 115	31x5.25 31x5.25	2800 3145	4	Wood	Steel	Steel	Leather.		Pyrox	2	A	No	No	No.	. Yes	No	Yes No.	No	No.	No	D, L
CunninghamV6	Sp. Touring Coupe	6150	0 132 0 132	31x5.25 33x6.75	4500	4 2	Wood	Alum	Alum	Leather . Optional.	. Opt	Varnish	1-2		Yes	Yes Yes	Yes	Yes Yes	No	Yes Yes	Yes Yes	Yes	No	I, T D, I, T
Dagmar6-60	Roadster	1985	5 120 5 120	33x6.75 32x6.20	3100	2	M&W.	Steel	Steel	Leather.	. PyFa	Varnish	1 2	D	tt No	tt No	tt No	1 11	1 11	1 +	1 11	1 11	1 11	I
Dagmar6-70	Roadster	3500	0 138	32x6.20 33x5.00 33x5.00	3750	2	M&W. M&W.	Steel	Steel	Broad Leather.	. PyFa	Varnish	1	D	No.	No.	No.	. Yes	No	Yes Yes	No	No.	Yes No	D, L
Davis	Pet. Sedan		0 138	33x5.00 30x5.77	4200 2660	111	M&W. Wood.	Steel	Steel None	Broad Leather.	RCF	Varnish Pyrox	1	D	No.	No Yes	No.	Yes Yes	No		No Yes	No. Yes	No.	D, I G
Davis	Sedan		5 115 5 109	30x5.77 30x5.77 29x4.75 32x6.20	3000	4	Wood	Steel	Steel	Velour Velour	. Fabric.	Pyrox	1	D	No.	No.	No.	. Yes	No	Yes	Yes No.	Yes	No	
Delling (Steam)126	f Touring	289	5 132 0 132	32x6.20 32x6.20	4100	4	M&W. M&W.	. Alum	Alum	Leather.	PyFa	Pyrox	2 2	D.	No.	No.	No.	. Yes	No	Yes	No.	No.	No.	S, T
DianaStr. 8	Sedan Touring	169	5 1251	32x6.20 32x6.00 32x6.00 30x5.77 30x5.77 Opt Opt 32x6.20	3100	4	M&W.	. Steel	Steel	Leather	RCF	Pyrox	1	A	Yes	No.	No.	No.	. No	Yes	Yes	Yes	No	G
Dodge Brothers	Sedan Touring	1998	5 1253 5 116	2 32x6.00 30x5.77	$\begin{vmatrix} 3276 \\ 2567 \end{vmatrix}$	4	M&W. Metal	Steel	Steel	Mohair Leather.	. PyFa Im Lea	Pyrox Enamel	1 2 2	A	Yes No.	No.	.No.	No. Yes		No.	No.	No.		
	B Sedan Phaeton		5 116 0 134	30x5.77	2811	4	Metal Wood	. Steel Alum	Steel	Loather	Im Lea	Pyrox	2	M.	No. No. Yes	No. Yes	.INo.	Yes Yes	No.	No. Yes	No.	No. Yes		D, G, L. G. I. T.
DuesenbergStr. 8	Sedan		. 134	Opt 32x6.20	4115	4	Wood	Alum	Fabric	Leather. Broad Leather.	RCF.	Varnish.	2	W.A.			MT.	No. No. Yes	Van	Van	Van	Von	Min	D, G, I,
DupontD	Sedan	340	0 124	32x6.20	3550	1 4	Wood	. Alum	. Alum	Broad Leather.	RCF.	Varnish.	2	A	Yes	No.	No.	No.	No Yes No Yes No	Yes	No.	No.	No.	D, I
Durant A-22	Coupe	82	0 109 5 109	30x5.25 30x5.25			M&W.	9.9	Steel	Leather.	. 11	Pyrox	1 11	D. D.	No.	No.	No.	Yes Yes	Yes	Yes	No.	No.	No.	G
Elcar4-55	Phaeton		5 116 5 116	30x5.25 30x5.25	2560	2	Wood	. Steel	Steel	. Leather . Worsted.	. PyFa.	Pyrox	1	A	Yes Yes	No.	No.	Yes Yes	No Yes	Yes No.	Yes Yes	Yes Yes	No.	D, L
Elcar6-65	Phaeton	129	5 116 5 116	30x5.25 30x5.25		. 4	Wood		. Steel	. Leather.	. PyFa.	Pyrox	1	A	Yes.	No.	No.	Yes	No Yes No	No.	Yes	Yes Yes	No.	I D, L
Elcar8-81	Roadster	231	5 127	32x6.00	1 1	2	Wood	. Steel	. Steel None	. Leather .	RCF.	Pyrox	1	1 4		Yes	No.	Yes.	No.	Yes.	Yes	Yes	No.	G, I D, G, I.
Essex6	Coach	*86	5 127 0 1101	32x6.00 2 30x4.95	239	2 2 2	Wood	. Steel	. Fabric Steel	. Special	.RCF.	Varnish.	1	A.,	No.	No.	No.	No.	No.	Yes.		No.	No.	D, G
Flint60	Sedan	128 152	5 115 5 115	2 30x4.95 30x5.77 30x5.77	7 2718 7 2940	5 4	Wood	. Steel	. Steel	. Leather.	RCF.	Pyrox	1	A	No.	No. Yes	No.	Yes Yes	No Yes		Yes Yes		No.	G, I D, G, I.
Flint80	Touring	159	5 120 5 120	32x6.20	324	5 4	Wood	. Steel	Steel	. Mo Ve Leather.	RCF.	Varnish.	. 2	A.	No.	Yes	No.	Yes	No Yes	. Yes		Yes	No.	G, I D, G, I.
Flint		108	5 110	32x6.20 30x5.25	5	4	M&W	Steel	. Steel	. Worsted.	. Special RCF.	Pyrox	1	A.,	No.	Yes	No.	Yes Yes Yes Yes Yes	Yes	Yes	No.	. Yes	No.	D
FordT	Tudor Sedan	. 52	0 100	30x3½ 30x3½ 31x5.25	160	7 4	Metal	. Steel	Steel	. Im Lea Fabric		Varnish.		A.	. 1740.	1140.	No.	Ves	No.	Vos	No.	INO.	No.	D. I
Franklin11A	(Toursing	263	5 119 0 119	31x5.25	284	5 4	M&W.	Alum	None	. Leather.	. Fabric.		1	A.	. Yes	Yes	No	Vos	No	Vos	No.	-INO	INO.	U. 1
Gardner6A	Touring	139	5 118	31x5.28 31x5.28 31x5.28 32x6.00	315	0 4	M&W.	. Steel	. Steel	Broad	RCF.	. Pyrox	1	A.	Yes		No.	Yes	No.	Yes	Yes	Yes	No.	D, G, T. I, S D. I.S
Gardner 8A	Brougham	179	5 118 5 125	32x6.00	352	0 4	M&W.	. Steel	. St & F Steel	. Leather.	RCF.	Pyrox	1	D.	Yes Yes	Yes	No.	Yes	No.	Yes	Yes	Yes	No.	I. S
GrayS	Brougham		5 125 5 105	32x6 00	11374	(i) 4	M&W.	Steel	St & F	Velvet Velour	PyFa. RCF	Pyrox Varnish.	1	D.	. Yes	No.	No.	. Yes	No.	Yes Yes	Yes No.	Yes No.	No	D, G, I
HertzD1			. 114	29x4.40 30x5.7 30x5.7	380	0 4	Wood	. Steel	Steel	Leather.	RCF	Pyrox	1	D.	No.	No.	No.	. No	No.	Yes	No.	No.	No.	D, S
Hudson Super Six	Coach		0 1273	8 33x6.00	338	51 2	Wood.	Steel		. Special.	RCF.	Varnish.	1	A.	No.	No.	Yes	No	. No.	Yes	Yes	No.	No.	D, G
Hupmobile	Sedan	138	5 114	30x5.28 30x5.28	5 280	0 4	#	1	#	Leather.	. ††	Pyrox	1	A.	Yes Yes	No.	No.	Yes	No.	. Yes	No.	Yes	No.	D, G
HupmobileE-1	Touring	194	5 118	4 33x6.00	0 313	5 4	#	#	#	Leather.	RCF.	. Pyrox	1	A.	No.	Yes	No.	Yes	No.	No.	No.	Yes	No.	D, I, 8. D, I, 8. D, I, 8. D, G, I. D, S. D, S. D, G. G, I. D, G, I. L, S. I, S.
JewettNew Day	1 Touring	109	5 109	29x4.78	5	. 4	M&W.	Steel	. Steel	. Leather.	RCF.	. Pyrox	1	D.	No.	Yes	No.	Yes	No.	Yes	No.	. No.	No.	I, 8
	Sedan	99	5 109	29x4.7		. 2	Metal	. Steel	. Steel	. Worsted	RCF.	. Pyrox	. 1	A.	. No.	. No.	. No.	Yes	No.	. Yes	NO.	NO.	. 140	I, S

ABBREVIATIONS:

*-Delivered Price, Detroit

†-Manufacturers did not supply
information
A-Artillery
A & S-Aluminum and Steel
Broad-Broadeloth
Cust—Custom

D—Disc (wheels)
D—Door (lock)
EnPy—Enamel Pyroxylin
Im Lea—Fabric Leather
G—Gearset
I—Ignition
MoVe—Mohair-Velour

M & W—Metal and Wood
O—Optional
Opt—Optional
Pet—Petite
Pyrox—Pyroxylin Finish
Py-Fa—Pyroxylin Fabric
RCF—Rubber Coated Fabric

S—Steering Wheel
St & F—Steel and Fabric
T—Spare Tire
Va-Py—Varnish or Pyroxylin Finis
Optional
W—Wire
Worsted—Worsted Fabric

stries

Locks Fitted

G..... D, G..... D, I.....

D, L..... ††..... G..... D, G.....

D, G.....

Pyroxylin Finis

abric

926

Body and Equipment Specifications of 1925 Cars-Continued

		GENE	RAL						В	DDY								EQU	IPME	NT			
AKE & MODEL OF CHASSIS	Sody Model	Price \$	Wheelbase (Ins.)	Tire Size (Ins.)	Weight of Complete Car (Lbs.)	Number of Doors	Body Framework Material	Body Panels	Rear and Ouarter Sections	Upholatery	Top	Type of Finish	Type of Windshield	Type of Wheels	Snubbers or Shock Absorbers Fitted?	Bumpers Trunk Rack	Windshield Wiper		Cowl Ventilator	Motometer	Dash Gas. Gage	Cigar Lighter	Lecks Fitted
	(Touring		_	32x6.20		-	Wood		Steel								_	-	-	_		_	
lan	Brougham	2575 1695	$125\frac{1}{2}$	32x6.20 30x6.00 30x6.00 33x6.00	3625 3000	4 2	Wood Metal	Steel Steel	Steel Steel	Leather Special Leather	RCF	Pyrox Pyrox		A	Yes N	lo No	Yes	INO.	Yes Yes Yes	Vos	Yes		D, G
anJ	Sedan (Phaeton	1845 1585	116 121	30x6.00	3200 2980	4	Metal	Steel	Steel	Mohair Leather	RCF.	Pyrox	1	A	Yes N	lo. No	Yes	No.	Yes	Yes	Yes Yes	No	G
el55	Brougham	1695 1985	121	33x6.00 33x6.00	111	2	#	1 11	H	Cloth	1 #	Pyrox	#	A	No N	o No	Yes	No.	No	No	No	No	Ğ
ml75	Phaeton Brougham	2095 1895	126	33x6.00	1 11	2	MAN	94-1	, H	Leather	H	Pyrox	##	A	No N	0 No		No.	No.	No	No	No	#
ingten6-50	Std. Touring. Sedan	2245	119	30x5.77 30x5.77	3425	4	M&W M&W	Steel H & S	None Steel	Leather	RCF.	Pyrox	2 2	A	No Y	es No	Yes	INO.	Yes Yes	Von I	Vos.	Yes	D, G, I. D, G, I.
88	Phaeton	4000 4600	136	33x5 33x5	4565 4750	2	Wood	Alum	Alum	Leather Mohair	Leather	Varnish	1		Yes Y	es Yes	Yes	No.	Yes	No	Yes	Yes Yes	G, I, T. D. G. I.
emobileJr. 8	Coupe	1785 2265	124 124	30x5.77 30x5.77	3000 3250	2		Steel	Steel	Leather Broad	Im Lea. Special.	Varnish Pyrox	2	A	Yes Y	es No	Yes	No.	Yes Ves	Yes	No	No	G, I D, G, I.
amobile	Sportif Victoria	7460 10050	142	30x5.77 36x6.75 36x6.75 33x6.75 33x6.75 32x6.20	5280 5630	4	Wood	Steel	None	Leather Optional	Broad	Pyrox Varnish	2	A	Yes Y	es Yes	3 Yes	No.	. Yes	No	No	No	I. T
emsbile90	{ Touring	5500 6950	138	33x6.75	11	4		Steel	Steel	Leather	Im Lea.	Varnish	2	A	Yes X	es Ye	s Yes	INO.	Ves	No Yes	No	Vos	CIT
74	Coupe	3295	136	32x6.20	3604	4	Wood	Alum	Steel	Leather	RCF	Varnish Pyrox	2	A	No N	es No Io No	Yes	INO.	- IX es	NO	108	108	D, G, I G, I, T
FarlanSV	Brougham	3295 2650	127	32x6.20 33x6.20 33x6.20				Steel	Steel	Leather	RCF	Pyrox Varnish	2	A	No N Yes Y	es No	Yes	No.	Yes Yes	No Yes	Yes Yes	Yes No	D, G, I G, I
	Sedan Touring	3180 5600	127 1411/4	33x6.20 33x6.75	3850 4600	4	M & W	Alum	Alum	Optional Leather	RCF	Varnish Varnish	2 2	A	Yes Y	es No es Yes	Yes	No.	Yes Yes	Yes No.	Yes	Yes	D, G, I
arlanTV	Sedan	6720 2650	141¼ 131	33x6.75 33x6.75 33x6.20	5200	4	M & W	Alum	Alum	Optional	RCF.	Varnish Varnish	2	0	Yes X	es Yes	8 Yes	Yes	Yes	Yes	Yes	Yes	D, I, T I, T
arlanStr. 8	Sedan Touring	3180 1985	131	33x6.20 32x6.20	1 11	4	M & W Wood	Alum Steel	Alum Steel	Optional Leather	RCF	Varnish Pyrox	2	A	Yes Y	es No	Yes	No.	. Yes	Yes	Yes	Yes	D, I, T
n Lendon	Pet. Sedan	2540 1195	128	32x6 20	3590	4	Wood	Steel	Fabric	Broad	PyFa	Pyrox	2	D	No N	io Ye	a No.	. Yes	Yes	No	No	No	G
nSeries A	Touring	1295	113	30x5.25 30x5.25	2710	2	M & W	Steel	Steel Fabric	Leather Corduroy.	PyFa	Pyrox	1	D	No N	o No o Ye	No.	Yes	Yes	No	Yes	No	G D, G
Advanced	Sedan	1340 1425	121	33x6.20 33x6.20	3550	2	Wood	Steel	Steel	Leather Worsted	PyFa	Pyrox		D	No N	Io Yello No Io No Io No Io Yello No Io Yello Yello Yello	Yes	No.	. Yes	No	Yes Yes	No	G D, G
Advanced	Touring 7 p	1490 1990	127	33x6.20 33x6.20	3750	4	Wood	Steel	None Steel	Leather Mohair	Im Lea. PyFa	Pyrox		D	No N	lo. No	Yes	No.	. Yes	No	Yes	No	G D. G.
Special	Roadster Sedan	1115	1121/6	31x5.25 31x5.25	2870	2	Wood	Steel	None Steel		Im Lea.	Pyrox	2	D	No N	o Ye	Yes	No.	. Yes	No.	No	No.	G
land6	Touring	1025 1095	113	30x5.25 30x5.25	2500	4	Wood	Steel	Steel	Leather	RCF.	Pyrox	1	A	No N	o No	Yes	No.	No	No	No	No	D, G G
ımsbile6	Coach	875	1101/9	30x4.95	2235	4	Wood	Steel	Steel	Corduroy. Leather	RCF	Pyrox	2	A	No N	io No	Yes	No.	No	No	Yes. No	No	D, G G, I
rland 91	Coach	495	100	30x4.95 30x3½ 30x3½	1919	4	Wood	Steel	Steel	Plush	RCF	Pyrox Enamel	1	A	No N No N No N No N No N	lo No	Yes	No.	Yes No	No	No	No	D, G, I I D, I
	Sedan Touring	895	100 1123/4	(29x4.95		4	#	##	#	#	#	Pyrox	††	A	No N	lo No	Yes	No.	Yes	No	No	No	D, I
rland93	Std. Sedan	895 2585	1123/4	29x4.95 33x5.77	2443	2	Wood	A&S	None	t† Leather	RCF	Pyrox	11	A D	No N Yes Y	o. No	Yes	No.		No Yes	No	No Yes	D, I
kard6	Sedan Touring 7 p	2585 2785	126	33x5.77 33x5.77	3937	4	Wood	A&S	Steel None	Broad Leather	RCF	Pyrox	2	D	Yes Y	es No	Yes	No.	. Yes	Yes	Yes	Yes	D, I, T
kard6	Club Sedan	2725	133	33x5.77		4	Wood	A & S	Steel	Broad	RCF	Pyrox	2	D	Yes Y	es No es Ye	Yes	No.	Yes.	Yes Yes	Yes	Yes Yes	D, I, T
kard8	Coupe	3750 4650	136	33x6.75 33x6.75	4242	2	Wood	A&S	None Steel	Broad	RCF	Pyrox	2 2 2	D	Yes Y	es No es Ye	8 Yes	No.	Yes.	Yes	Yes Yes	Yes Yes	I, T D, I
kard8	Touring 7 p	3950 4890	143 143	33x6.75		4	Wood	A & S	Steel	Broad	RCF	Pyrox		D		es No es Ye	Yes	No.	Ves.	Vea !	Yes	Yes Yes	I, T D, I, T
ge24-26	Touring 7 p	1995 1495	125	32x6.00 32x6.00		4	Wood M & W	Steel	Steel	Leather Mohair	RCF	Pyrox	1	A	Yes N	o Ye	Yes	No.	Yes Yes No	Yes	Yes Ves	No	
riess6-72	Phaeton	1895 2295	126	36x6.00 33x6.00	3175	2 2	M & W	Steel	Steel	Leather Mohair	RCF	Pyrox	1	A	Yes N	o No	Yes	NO.	Yes	Yes	Yes	No	G, I, T
rless6-80	Sedan	1495	116	32x6.00	2950	2	M & W M & W M & W	Steel	Steel	Velour	RCF	Pyrox	1	A	Yes N	Io Yes	Yes	No.	No	Yes	Yes	No	D, G, I D, G
rless8-69	Roadster Sedan	3495	1331/	33x6.75 33x6.75		2 2	M & W M & W	Steel	Steel	Leather Mohair	RCF	Pyrox	1	D	Yes N Yes N Yes Y	lo No	Yes	No.	No	Yes Yes	Yes Yes	No	G, T. D, G,
rce Arrow33	Sedan	6900	138	33x5	4800	4	M & W	Alum	Alum	Deather Optional	Im Lea.	Varnish	2 2	Α	Yes Y	es No	Yes	No.	Yes Yes	No	No	No	I, T D. I. T
ca Arraw80	Phaeton	3095 3150	130	32x5.77	3260	4	M & W	Alum	Alum	Leather Optional	Im Lea.	Varnish Varnish	2	A	Ves V	es No	Ves	No.	1 00	740**	740"	740.0	I, T D, I, T
tiac	Coach	3150 825 1395	110	29x4.75	2335	2	M & W.	Steel	Steel	Corduroy.		Pyrox	1	A	No N	lo No	Yes	No.	. No	No	No	No	D. I
Т-6	Sedan	1.565	120	32x5.77 29x4.75 32x6.20 32x6.20	3515	4	M & W	Steel	Steel		RCF		1	D	No N	lo No	Yes	No.	Yes Yes	No	No	No	D, G. I, T.
Pere25	{ Touring Sedan	3800	131	32x6.20	4300	4		Alum	Alum	Leather Optional	Opt	Varnish Varnish	2 2	A	Yes Y	io No io No io No ies Ye ies Ye ies Ye	8 Yes	Yes	Yes	Yes	NO	Yes	D. I. T
we	Sedan	3200 4000	131	$\frac{32x4\frac{1}{2}}{32x4\frac{1}{2}}$	3970 4400	4	Wood	Alum	Alum	Leather Optional	Opt	Varnish	1-2	3.6	100 1	es Ye	5 1 0	No. Yes	Yes Yes	No	No	No	I
kenbackerE	Phaeton Coupe Sedan.	1750 1695	117	32x6.20 32x4½ 32x4½ 31x5.25 31x5.25	2787	4	M & W M & W	Steel	Steel	Leather	Im Lea.		1	A	No 1	Vo No	Yes	No.	. No	No	No	No	I, S I, S
kenbackerB-8	(Phaeton	2150	1211/	OO. OAGG	10020	-	M & W M & W	Steel	Steel	Leather Mohair	Im Lea.	Pyrox	1	Α	Yes 1	Vo. No	Ye	No.	. No	No	No	No	I.S
amer4-75-E	Tourer	2985	121½ 128	33x6.00 32x4½ 31x5.25	11	4	Wood	Alum	Alum	Leather	RCF	VaPy	1 2	Ŏ	No	No Ye No No No No	s Yes	No.	. Yes	Yes	No.	No	I, S D, I, T
amer6-50	Touring	1295 1395	115	31x5.25	51 ††	2	Wood	Steel	Steel	Velour	RCF	VaPy	2	0	No 1	No. No	No	No.	. Yes	Yes	No	No	D, I, T D, I, T
nmer6-54E	{Tourer	1985 2950	118 118	32x4½ 32x4½	##	4	Wood	Steel	Steel	Cloth	Fabric.	VaPy	2 2	0	No. 1	No No	Ye	No.	. Yes	Yes	No	No	I, T
amer8-88	Frougham	2495 2895	138	32x6.00 32x6.20	11	4	Wood	Steel	Steel	Leather Velour	11	VaPy VaPy	2	0	No 1	No No) Ye	No.	. Yes	Yes	No	No	I
anley252	Phaeton	2500	122	11	3400	4	11	11	II	††	1 11	Varnish.	1 11	A	Yes !	Vo Ye	s Ye	No.	. Yes	No	No	No	T
ar4	Touring	3300 525	103	30x3.50	3800	4	M & W.	Steel	Steel	Im Lea	Im Lea		1 11	A	No 1	No Ye	Ye	No.	. Yes	No	No	No	D, T.
ur	Coach	695 695	103 107	30x3.50	1 11	2 4	M&W.	Steel	Steel	Worsted.	Im Lea	Pyrox	1 1 2	A	No!	No No	Ye	No.	Yes tt	No	No	No	D, I
earns Knight	Coach	880 1595	107	33x6.00	3775	2	M&W Wood	Steel	Steel Fabric	Velour	Im Lea	. Pyrox	1	A	No	No. No	Ye	No.	. Yes	Yes	No	No.	D, I I, T
	1 Course Pate	1795	119	33x6.00	0 3550	1	Wood Wood	Steel	. Fabric	Mohair Leather	RCF.	Varnish.	12	IA.	No.	Yes No	. Ve	a No.	Ves	Yes	No.	No.	DIT
earns KnightC6	Touring																						

ABBREVIATIONS:

11—Manufacturers did not supply information.

A-Artillery
A & S-Aluminum and Steel
Alum-Aluminum
Broad—Broadcloth
Cust—Custom

D—Disc (wheels)
D—Door (lock)
EnPy—Enamel Pyroxylin
Im Lea—Fabric Leather
G—Gearset
I—Ignition
MoVe—Mohair Velour

M & W—Metal and Wood
O—Optional
Opt—Optional
Pet—Petite
Pyrox—Pyroxylin Finish
Py-Fa—Pyroxylin Fabric
RCF—Rubber Coated Fabric

S-Steering Wheel
St & F-Steel and Fabric
T-Spare Tire
Va-Py-Varnish or Pyroxylin Finish
Optional
W-Wire
Worsted-Worsted Fabric

Body and Equipment Specifications of 1925 Cars—Continued

	(GENE	RAL						ВО	DY								1	EQUI	PME	NT			
			-		lete	2			Covering	Meterials			ield		Shock Hed?			- La						
MAKE & MODEL OF CHASSIS	Body Model	Price \$	Wheelbase (Ins.)	Tire Size (Ins.)	Weight of Comp	Number of Door	Body Framewer Material	Body Panels	Rear and Quarter Sections	Upholstery	Top	Type of Finish	Type of Windshield	of Whe	Snubbers or Sh Absorbers Fitter	Bumpers	Trunk Rack	Windshield Wip	Car Heater	Cowl Ventilator	Motometer	Dash Gas. Gage	Cigar Lighter	Locks Fitted
Stearns KnightS6	{ Touring Sedan	2395 2750	130	33x6.73	5 3950	4 4	Wood	Steel	Fabric	Leather Mohair	RCF	Optional. Optional.				Yes	No	Yes Yes Yes	No No	Yes Yes Yes	Yes	No	No	I, T D, I, T
Stearns DuryeaG	Touring 7 p.	7500 9000	138	33x5 33x5	5500 5600	2	 	1	#	. #	H	Varnish		A	No	Yes	No No	Yes	Yes	Yes	Yes	No		D, I, T
StudebakerStd. 6	Phaeton	1145 1195	113	31x5.2		2	Wood	Steel	Steel	Leather Wool Cl'h	PyFa	Enamel EnPy	1	A	No	No	No	Yes Yes	No	Yes	No	Yes Yes	No	D, I, S, T.
Studebaker Special 6	Phaeton	1445 1445	120	31x6.20	0 3520	2	Wood	Steel	Steel	Leather Wool Cl'h		Pyrox EnPy	1	A	No	No	No Yes	Yes Yes	No	Yes Yes	No	Yes Yes	No	D, I, S, T. D, I, S, T.
StudebakerBig 6	Spt. Phaeton. Club Coupe.	1575 1650	120	32x6.2 32x6.2	0 3570	2	Wood	Steel	Steel	Leather Mohair	PyFa	Enamel EnPy	1	A	Yes	No	No Yes	Yes Yes	No	Yes	No			I, S, T D, I, S, T.
StudebakerBig 6	Phaeton 7 p	1775 2045	127 127	34x7.3		4 2	Wood	Steel	Steel	Leather Mohair	PyFa	Enamel Pyrox	1	A			No	Yes Yes	No	Yes	No	Yes Yes	No	I, S, T. D, I, S, T.
StutzAA	Speedster 4 p. Brougham	2995 2995		32x6.2 32x6.2		4	M & W M & W	Steel	Steel Fabric	Leather Broad	RCF	EnPy	1	A	Yes Yes	Yes Yes	Yes No	Yes Yes	No	Yes Yes	Yes Yes	Yes Yes	Yes	G, T D, G, T
Velie60	Phaeton	1450 1425	118	30x5.2 32x6.2	5 3025	4 2	M & W M & W	Steel	None Fabric	Leather Velour	RCF	Varnish Pyrox	2	A	No	Yes No	Yes No	Yes Yes	No	Yes	Yes	Yes No	Yes	G D. G
Wills St. Claire C68	Traveler	3300 4085	127	32x6.2 32x6.2	0 3450	4	Wood	Steel	None Alum	Leather Broad	Fabric	Pyrox	1	D	Yes Yes	Yes No	Yes Yes	Yes Yes	No	Yes Yes	No	Yes Yes	Yes Yes	D, G, I, T. D, G, I, T.
Wills St. ClaireW6	Traveler	2800 3185	127	33x6.0	0 3550	4	Wood	Steel	Alum	Leather Worsted	Fabric.	Pyrox	1	D		Yes Yes	Yes	Yes Yes	No		No	Yes Yes	Yes	G, T D, G, T
Wills St. ClaireT-6	Traveler	3000	127	32x6.2 32x6.2	0 3500	4	Wood	Steel	Steel	Leather Broad	Special RCF.	Pyrox	1	D	Yes Yes	Yes Yes	Yes Yes	Yes Yes	No		No	Yes Yes	Yes	G. I. T
Willys Knight70	Touring Sedan		113½ 113½	30x5.2	5 3050	4	Wood	Steel	None Fabric	Leather Velour		Pyrox		A	Yes Yes	No	No	Yes Yes	No Yes	No	No	No Yes	No	
Willys Knight66	Touring Coupe Sedan.		126	32x6.2 32x6.2	0 3395		Wood	Steel	None	Leather	RCF.	Varnish	1	A	Yes Yes		No	Yes Yes	No Yes	Yes Yes	No		No.	G D, G

ABBREVIATIONS:

††—Manufacturers did not supply information.
A—Artillery
A & S—Aluminum and Steel
Alum—Aluminum
Broad—Broadcloth

Cust-Custom

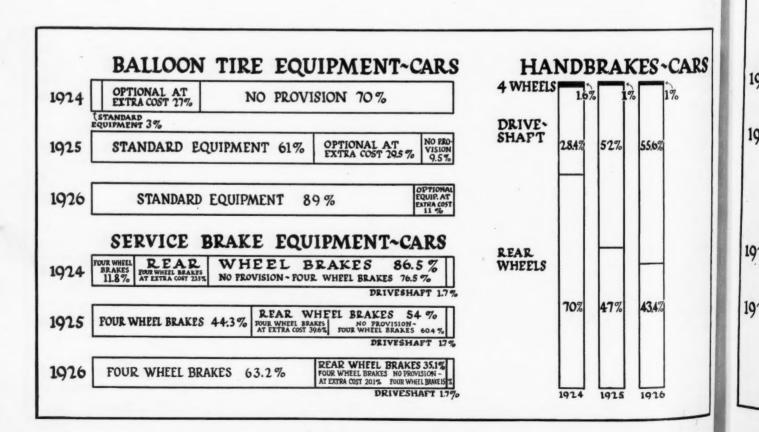
D—Disc (wheels)
D—Door (lock)
EnPy—Enamel Pyroxylin
Im Lea—Fabric Leather
G—Gearset

G—Gearset I—Ignition MoVe—Mohair Velour

M & W—Metal and Wood
O—Optional
Opt—Optional
Pet—Petite
Pyrox—Pyroxylin Finish
Py-Fa—Pyroxylin Fabric
RCF—Rubber Coated Fabric

S—Steering Wheel
St & F—Steel and Fabric
T—Spare Tire
Va-Py—Varnish or Pyroxylin Finish
Optional
W—Wire
Worsted—Worsted Fabric

Design Trend Changes in Car Brakes and Tires



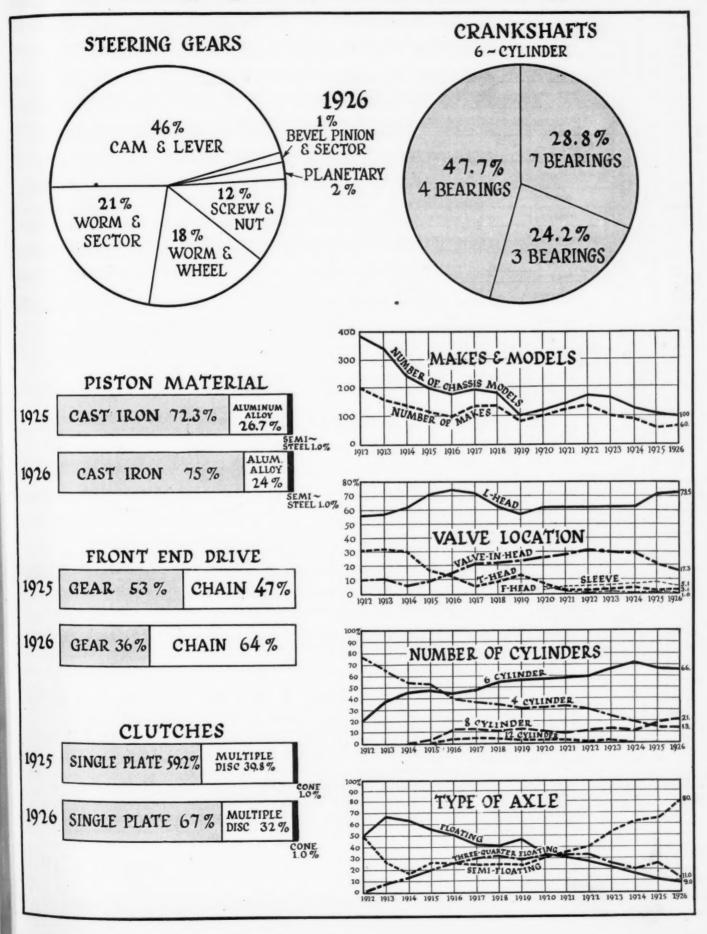
tries

G...... D, G....

lin Finish

CARS

Changing Trends in Car Design



Aut

Met. Sp. 4.7 TT ... TT ... 12E. Cant. FR. Rod. WS. PG Disk. Met. Sp. 4 ... TT ... TT ... 12E. Cant. FTR. Rod. WS. PG. Disk.

Mag. 6 Yes Mag. 6 Yes 6

51 715x115 4-2 44x4.33 2 Det L. 4 Int. Al. CC. 51 700x90 4-2 75x4.73 2 Det. I. 45sp. Al. CC. 56815x105 4-3 07x5 11 3 Det. I. 45sp. Al. CC. 60xx.0xx6.0xx7

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Continental Passenger Car Chassis Specifications

		Wheels Standard		DDISK. Wire.
		Chassis Lubrication		<u> </u>
GEAR		Steering Gear-Type		N. N
NG G		Operated Through		STATE OF THE STATE
RUNNING		Lecation		REELELELELELELELELELELELELELELELELELELE
		Rest-Type		
	Springs	Frent-Type		
		Terque Taken By		\$\$11115\$1\$\$1\$11111111115\$135\$\$\$\$\$\$\$\$\$\$\$
	Axle	Propulsion Taken By		
NOIS	Rear	Gear Ratie		44666666666666666666666666666666666666
		Pinal Drive		ස්ස් මෙම මෙම සිට්ට සිට මෙම සම්බන්ධ වෙන සම්බන්ධ මෙම සම්බන්ධ මෙම සම්බන්ධ සම්බන්ධ සම්බන්ධ සම්බන්ධ සම්බන්ධ සම්බන්ධ සම්බන්ධ සම්බන්ධ
TRANSMISSION		Oniversal Joints Type		Met. Frab. Frab. Frab. Frab. Frab. Frab. Met. Frab. Met. Met. Met. Met. Met. Met. Met. Met
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	Gearsel	No. of Forward Speed		母の000000000000000000000000000000000000
	_	Lecation		· · · · · · · · · · · · · · · · · · ·
_		Clutch Type		PESSERIE DE CARRES DE CARRES DE COMPANS DE CARRES DE CAR
STEM	_1	Battery Voltage Equipped with Electrica Starter		\$8886688888888888888888888888888888888
CAL SY		Current Sources		MWas sa Mwas s
ELECTRICAL SYSTEM	Ignition System Make		NC	SEV SEV SEV Due. Due. Due. Due. Due. Due. Due. Due.
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	System	Intake Heated By	- E	W Wat Wat Wat W W W W
	Fuel	Carbureter Make		Zen. 2 Ze
		Water Circulation		THE PROPERTY OF THE PROPERTY O
		Oiling System		7. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.
	haft	Drive		HHEIP HEIP HEIP HEIP HEIP HEIP HEIP HEIP
ENGINE	Camshaft	Location		555555##5555#\$555#5 ::55555555## 55555##5555555###
EN		Piston Material		<u> </u>
		Cast with Upper Half of Crankcase		<u>\$\$2=====\$2</u>
	Cylinders	Valve Arrangement No. Cast in One Block		
	5	Head		in the control of the
		No. of Main Bearings		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
		No. of Cylinders Bore and Stroke (In.)		4-2-75x5 11 4-2-7
		Tire Size (Millimeters)		99 765x105 99 765x105 91 760x80 48 776x80 40 650x65 54 880x120 55 880x120 55 880x120 55 880x120 56 880x120 57 76x105 57 76x105 58 880x120 59 880x120 59 880x120 50 880x120 50 880x120 50 880x120 51 765x105 52 880x120 53 880x120 54 776x105 55 880x120 56 880x120 57 76x105 58 880x120 59 880x120 50 880x120
_		Wheelbase (In.) Tread (In.)		280202020202020202020202020202020202020
		MAKE AND MODEL		Alba Abanilear Amilear Amilear Amilear Amilear Amilear Anise Arite Ballot Barré Barre Barr

Cerre La License 116 517650105 4-3.14x5.12 3 Det. L. 4 Sep. Al. CC Spur Pre. Ths. Sol. Wat. V. Duc. Ceris La License 116 517650105 4-3.14x5.11 5 Det. L. 4 Sep. Al. CC Chair Pre. Ph. Zen Wat. V. M&B 12 Yes M.D. Eng. 4 C. Met. Sp. 4.3 TT TT 12 12 EE 12 E

PO WARM WAS DOUBLE AND	TA—Torque Arms T ½ Ell—Transverse ½ Elliptic TR—Transmission and Rear wheels Trans—Transverse Trans—Transverse Trans—Transverse Trans—Transverse Trans—Transverse Vic—Victum Wic—Victum Wic—Victum Wic—Victum Wic—Water
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REGARD RE	Arms ansverse ission neverse Tube and N Drive and Se and V
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	ion)
<u> </u>	Propulsion)
<u> </u>	Sag—Saga Sch—Schlee Sch—Schlee Sch—Schlee Sleeve Valve SN—Serew and Nut SN—Serew and Nut Sp—Spring (Torque & Pr Sp—Spring [Plate Spe—Special Spe—Special Spe—Special Spi—Splang Spi—Splang Spi—Splang Spi—Splang Spi—Splang
ি পা ৰাজ ৰাজ্যৰ বাৰ্থিক কাৰ্থিক কৰি কাৰ্থিক কৰি কৰি কৰি কৰি কৰি কৰি কৰি কৰি কৰি ক	lla ate Ur Valve and N (Torq Bevel Plate ial
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42222222222222222222222222222222222222	pt—Optional il—Pallas e—— Pressure at—Platform Rh—Paris Rhoi — Right (Gersi) — Rear (Brakes)
N	Opti-Pal-Pal-Pal-Pal-Pal-Pal-Pal-Pal-Pal-Pal
Vales of the control	(s)
<u>dzzzzzeddzzzzzzedzzzzzzedddzzzzzzzeddddzzzzzz</u>	Int—Integral L''L', Head Mat—Magnesium (Piston material) Mag—Magneto (Current source) Mag—Magneto and Battery Marc—Marchal Mar—Marelli Mat—Metall Mat—Metall No—Valvelees (2 Stroke) No—Vone No—None OG—Oil Cups OH—Overhead
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De Dien Besten De Dien Besten De Dien Besten De Den Besten De Dien Besten De Den Besten Delangere-Clayete Delanger-Clayete Delanger	ABBREVIATIONS: Al—Aluminum Ama—Amac AmB—American Bosch Bat—Battery Bd—Band Be—Belt Bew—Bevel Gear Ble—Beriot Gab—Center Cab—Cable C—Center Cab—Cable C—Center Cach—Cantilever Cach—Cantilever

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Continental Passenger Car Chassis Specifications—Continued

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_	Operated Through	Coab Brodden Brodden B	Rod
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	Universal Joints Type	Met. Mac. Met.	Met
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	Tread (In.)	<u> </u>	55
	Wheelbase (In.)	103 103 103 103 103 103 103 103	114
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3 Det. 333 4-2.95x4.3 4-2.99x4.6

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Phiesesses 102 47720x80 4-2.73x3.56 Det. 1. 4 Sep. Al. OH Heli. Pro. Ths. Zen. Exh. V. Bos. Mag. 12 Yes SP. Eng., 4 R. Mat. 170 5353135 4-3 34x5.42 9 Det. 1. 4 Sep. Al. OH Heli. Pro. Pro. Sol. Wat. V. Ros. Mag. 12 Yes SP. Eng., 4 R. Mat. or Phiesesses 110 5353135 4-3 34x5.42 9 Det. 1. 4 Sep. Al. Det. 1. Mat. Pro. Sol. Wat. V. Ros.

Continental Passenger Car Chassis Specifications—Continued

	Wheels Standard Equipment		HS. Whood Wire
_	Chassis Lubrication		86666684666666668668666666666666666666
EAR	Steering-Gent-Type		## ## ## ## ## ## ## ## ## ## ## ## ##
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W	Starter Clutch Type		######################################
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_	Water Circulation		2
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3	Drive	1	Heli Obai Obai Obai Obai Obai Obai Obai Oba
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EN -	Piston Material		<u> </u>
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7	Valve Arrangement No. Cast in One sleek		444444444444444444444444444444444444444
	No. of Main Bearings Head		### ### ### ### ### ### ### ### ### ##
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	Wheelbase (In.)		13. 12. 12. 12. 13. 13. 13. 13. 13. 13. 13. 13. 13. 13
	(all) seelles ive		220222222211022222211122222222222222222
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TA—Torque Arms T 15 EII—Transverse 15 EIII ThS—Thermo syphon TR—Transmission and Rear Trans—Transverse TT—Transmission	V—Vacuum Vic—Victrix Wat—Water WN—Worm and Nut	Wo—Worm Drive WS—Worm and Sector WW—Worm and Wheel Zen—Zenith
Sag—Saga Sch—Schiele Sch—Schutilla Sep—Separate Unit Si—Sleeve Valive SN—Strew and Nut	& Propulsion ear Axle)	Spec—Special Spl—Splan Spur—Spur Gear ST—Straight Bevel
Opt—Optional Pal—Pallas P— Pre— Pressure Plat-Patform PR——Patform	ift lever	Ka—Kack RA—Unit with Rear Axle R-B—Robert Bosch Rib—Steel Ribbons RR—Radius Rods
Int—Integral Kie—Kiesel L—"L". Head Maf—Mafam M—Magnesium (Piston material) Ma4—Magnesiu (Purent source)	M&B—Magneto and Battery Marc—Marchal Mart—Marelli Met—Metal	N—Valvetess (2 Stroke) N-E—North East NO—None OC—Oil Cups OH—Overhead
Fab-Fsbric Fab-Fsbric Fr-Friction FR-Front and Rear FT-Front and Transmission FTR-Front Transmission		
Ch- Chal- Clack Iron Co-Cone Co-Cone Co-Core Coze-Cozette	Del—Delco Det—Detachable Dir—Direct Duc—Ducellier	Eis—Eiseman El—Elliptic Eng—Unit with Engine Ex—Expanding Exh—Exhaust
ABBREVIATIONS: Al-Ahumiuum Ama-Amac AmB-American Bosch Bat-Battery Rd-Band	Be—Belt Bev—Bevel Gear Ble—Bleriot Bos—Bosch	C—Center Cant—Cable Cant—Cantilever CC—Crankcase

M. 6 S.P. Eng 3 C. 1-Pab 15 Ft. Sp. 4.7 T.T. T. 19 Ell 18 El. | I Rw. | D.M. | W.S. | H.S. | G.C. |

12 108 49 28x4 .95 4 69x85 2.7x3.7 86 31. F. 4 8xp. Al. C.C. Ch. 8t. Th.S.. 8xp. Zon Grav. Var. 141 120 43x4 5 6 772x194 3.1x4 5 101 4 D. 1 4 10h. 3t. Pump PCs. Var. Var.

British Passenger Car Chassis Specifications

	Chassis Weight (Lbs.)	900 11130
	Chassis Lubrication	000000000000000000000000000000000000
	Wheels Type	COOOOO SEESEE SEES COOOOOOOOOOOOOOOOOOOO
	Steering Geer Type	DA WARREN
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	Oiling System	
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F	Gear Material	1112
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M. 12 Co., EDR. 4 R. F.& M. 12 F. Sp. 4.3 Spr. Spr. 12 Ed. 12 Ed. 17 F. DM., W. H. B., U. U. ZVON.
M. 12 S. P. Eng. 4 C., 2-Pab. F. F., Sp. 18 Spr. Spr. 12 Ed. 17 Ed. I. Fw. I.Tr. DM., W.S. Wire GG 1150
B. 6 Co., Eng. 3 R., 2-Pab. 12 F. Sp. 4.6 Spr. 18 Ed. 18 E. I. Fw. I.Tr. None. R&P. H.S., GG 700

| Int. Al. C C, He. CL. Ths. Spl., Cox. Vac., Lucas. | Sep. Al. C C, Ch. St., Pump PrCs, Cox. Vac., Lucas. | Sep. Al. C C, Ch. St., Pump Spl. Sel. Vac., Beach. | Sep. Cl. C C, Sp. CL. Ths., PrCs, Zen. Grav., Remy.

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7.00	R & P—Rack and Pinion. RR—Radius Rods. Su—Sievee Valves. Scint—Scintilla. Sep—Sparate Unit (Gearset). Sp—Spiral Bevel.
RR RR CORORRED COCORRER RR RR RR COCOCORRE RR RR COCOCORRE RR RR CORORRED CORORRED COCOCRE RR R	SKE
12	L—Valves at Side. M—Magneto. MAB—Magneto and Battery. MD—Multiple Dry Plate. Met—Metallic. OPI—Optional. OG—Oil Cups. OH—Overhead. OG—Oil Gups. Pla—Planetary. Pra—Pressure to crankshaft bearings and big-ends through hollow Pres—Pressure. R—Might hand. RA—Unit with Rear Axle.
San Carw Var Mattel	
### Property	to all bearings includ- ns. sk Transmission. ps. n. n. ssed Steel. ; head). yls and crankcase). ad. our Wheels. kear Wheels. ransmission. 1 Battery.
4-20 4-20 <t< td=""><td>FIPT—Pressure to all ling wrist pins. Fr—Friction Disk Tra GG—Grease Cups. GG—Grease Gun. GGAP—Gravity. He—Helical Gears. Hyd—Hydraul Gears. II—Integral (cylr. head) III—Integral (cyls and III—Integral (cyls and III—Integral (cyls and III—Integral (cyls and IIII—Integral (cyls and IIII—Integral (cyls and IIIII—Integral (cyls and IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</td></t<>	FIPT—Pressure to all ling wrist pins. Fr—Friction Disk Tra GG—Grease Cups. GG—Grease Gun. GGAP—Gravity. He—Helical Gears. Hyd—Hydraul Gears. II—Integral (cylr. head) III—Integral (cyls and III—Integral (cyls and III—Integral (cyls and III—Integral (cyls and IIII—Integral (cyls and IIII—Integral (cyls and IIIII—Integral (cyls and IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	DM—Direct Mechanical. DP—Dual Dry Plate. SeE—Helliptic. SeE—Three-quarter-elliptic. Tyle—Transverse Hall-elliptic. Eng—Unit with Engine. Eng—Unit with Engine. Eng—Unit with Engine. Eng—Expicyclic Gear. ERw—External Rear Wheels. ERw—External Rear Wheels. ERw—External Transmission. F—In Head and Side. F—In Head and Side. FF—Full Floating. SeT—Exemplement Floating.
	DM—Direct 1 DP—Dual Dr. SEE—Half-ell SEE—Three- SEE—Trans Eng—Unit with Eng—Unit with Eng—Engeling Eng—Engeling Eng—Engeling Eng—Engeling Eng—Engeling Eng—Engeling Engeling E
12 100	
Lagenda Lagenda Lanchester Lanchester Lanchester Lanchester Las Francis Las Francis Las Francis Las Francis Covelan Merris Oxford Overland Overland Overland Overland Overland Overland Soringer Sandad Sanda	ABBREVIATIONS: —At Extra Cost. †—Valveless, Two Stroke, Al—Aluminum. B—Battery. Be—Bevel. Central. Central. Cant—Cantilever. CA—In Crankase. CI—Cast Iron. Co—Cone. Co—Cost. Ci—Cast Iron. Co—Cone.

American Export Passenger Car Specifications

(Applying to Standard Phaeton Model)

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		В	FOI OXI		Cor	itents L Ft.)	MAGN	ЕТО		RIVE		a St	V	/ire	Dia	ık		LORS				OP
IAKE AND MODEL	Number of Passengers	Complete	Phaeton	Chasis	Complete Phaeton	Chassis	Make	Extra Charge	Fitted?		Make of Metric Speedometer	Metric Gasoline Gauge Fitted?	Optional ? Number	Extra Cost	Optional ? Number	Extra Cost	Standard	Options	Extra Charge \$	Tires-Metric Sire Optional?	Folding or Permanent	D. C. J. L.
erson. 6 erson. 5.1.8 surn. 6-66 surn. 8-85 ck. "Standard" ck. "Master" (129) ck. "Master" (129) ck. "Master" (120) cs. "Master	55555475775555575555555555555555555555	344 85 57 77 77 77 77 77	100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	65 65 65 42 47 53 98 45 45 45 63 67 100 55 50 50 50 50 50 50 50 50 50 50 50 5	330 638 511 575 324	297¾ 2883 329 149 165 162 448 360 240 121 332 239 265 267 275 2470 136 211 224 119 300 310 c175 346 c487 273 176 416 426 281	None. Bosch. None. Bosch. None. Bosch. None. Remy. None. None None None None None None None None	60.00 Yes. Yes. 52.00 27.00 30.00 45.00 45.00 70.00 None 50.00 None	Yes	10.000 10.000	Stew. War Stew. War A. C. A. C	NO NO NO NO Yes NO NO.	No- 0 Yes- 5 No- 0 O Yes- 5 No- 0 O Yes- 5 Yes- 7 Y	49 61 61 112 Yes. 70 50 60 60 80 No. 100 100 Yes. 55 80 Yes. 40 125 Yes. 70 150 100 None. 125 125 16 150 None. 135 150 100 None. 135 150 150 150 150 150 150 150 150 150 15	Yes- 5 Yes- 4 Yes- 5 Yes- 6 Yes- 6 S. E5 Yes- 6 S. E5 Yes- 6 S. E5 Yes- 6 S. E5 Yes- 6 No- 0 Yes- 4 Yes- 4 Yes- 4 Yes- 6 Yes- 4 Yes- 6	None Yes 45 10 10 30 30 30 None None 18 18 None 10	Blue Green. Blue, Gray. Green. Maroon Red. Optional. 2 Tone Tan. None.	Gray Gray Gray Gray All All None None 3 Colors All Blue, Brown None 1 Colors 6 Colors 6 Colors 6 Colors 6 Colors 7 Colors None All 3 Colors All 3 Colors	\$75 75 76 77 76 None	No	Opt. Fold Fold Fold Fold Fold Fold Fold Fold	Y
sh. Specish. Advance sh. Special sh. Advance sh. Advan	dd C001	7 5 5 5 5 5 7 7 5 5 4 7 7 7	60 60 60 66 59 37 43 75 75 90 65 100 60 90 125 130 75 75 105 60 76 80 76 Yes Yes	c65 c83 70 60 Ye	365 378 319 292 261 247 416 432 435 452 418 387 335 548 702 339 331 352 370 370 370	260 276 285 137 139 90 139 416 432 435 452 315 255 255 227 213 247 440 346 346 346 351	Bosch Bosch Bosch None Bosch None Bosch None None Bosch None None None None None None None None	40.00 40.00 50.00 50.00	0 Yes 0 Yes	None. None. None. 6.25.0 None. None. 25.0 S.25.0	. Stewart	No. No. No. No. No. Yes Yes Yes No.	Yes- Yes- No- No- No- No- Yes- Yes- Yes- Yes- Yes- No- No- No- No- No- No- No- No- No- No	5 50 50 50 50 50 50 50 50 50 50 60 60 60 60 60 60 60 60 60 60 60 60 60	Yes- 5 No- 0 No- 0 No- 0 S. E S. E S. E Yes- 4 Yes. Yes- Yes- Yes- No- (No- No- No- No- No- No- No- No- No- No-	30 O. A. 185 50 50 0 None	Nash Blue. Nash Blue. Gray. Brown Black Blue, Gray. Gray. Gray. Gray. Gray. Gray. Gray. Green. Optional Optional. Optional.	None. None. 3 Colors. None. 3 Colors. None. All. All. All. All. None. None. None. None. None. None. None. Metal Blue Metal Blue Metal Blue None. None. None. All. All. All. All. All. All. All. Al	None. None. None. None. O. A. O. A. None. None. None. None. Yes. Yes. Yes.	No No	Opt Opt Opt Fold. Perm Perm Copt. Opt Opt Opt Perm	1

ABBREVIATIONS:
*--At extra cost
**--Magneto ignition required with R. H. drive \$35 extra

c—Two per box
e—Magneto required with R. H. drive.
Fold—Folding

OA—On Application Opt—Optional Perm—Permanent

SE—Standard equipment StewWar—Stewart Warner

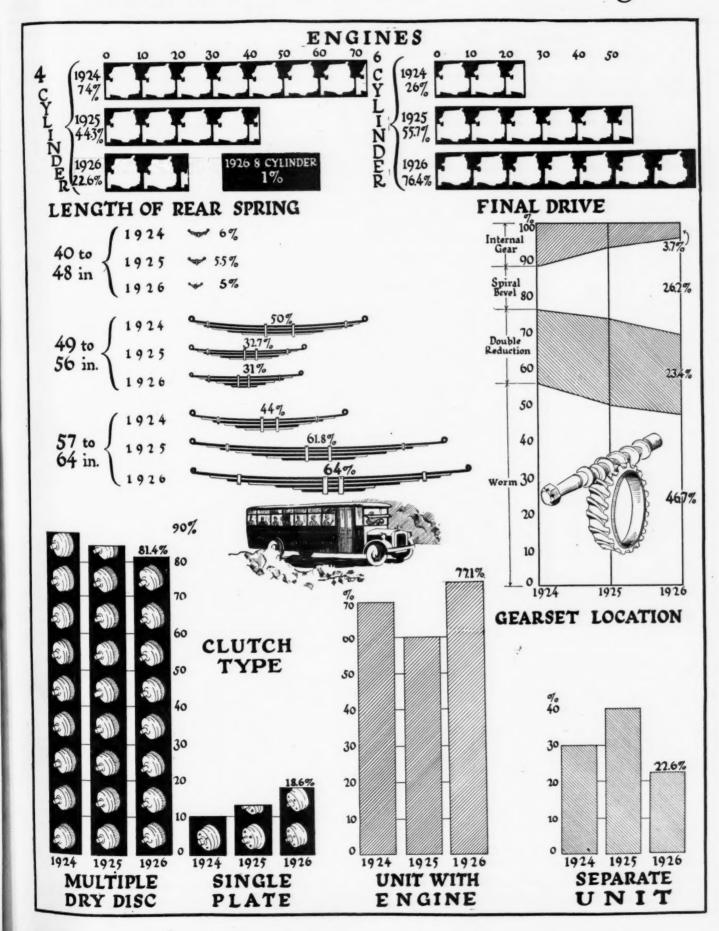
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Yes a yes a

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Trends in American Motor Bus Design



American

This Table comprises Motor Bus Chassis which are For other chassis which are recommended and adapted for Bus use

		GENERAL								ENGINE								CTRICA	L SY	STEM		GOVERNOR		TRANS	
MAYE 1110			8 Se			(Lbs.)	Tire Type and			lers, (Ins.)		t		Fue Syste		Igniti Syste		Starter	ty of	Battery			ned	Cla	itch
MAKE AND MODEL	Passenger Rating	Price-Chassis	Standard Wheelb (Ins.)	Tound Erant	and Rear (Ins.)	Chassis Weight (Front (Ins.)	Rear (Ins.)	Make and Model	Number of Cylinders, Bore and Stroke (Ins.)	Rated Horse Pow (N.A.C.C.)	Valve Arrangement	Oiling System	Carbueter Make	Fuel Feed	Make	Current Source	Generator and St Make	Maximum Capacity Generator (Watts)	Make	Voltage and Amp. Hour Capacity	Туре	Maximum Govern Speed (M.P.H.)	Make	Type
Ace	16 18 21 29° 20 20 22 25	- Chichenge - Chichenge	204 180 205 205 226° 153 153 200 185 225 235	58 58½ 58½ 58½ 56 56 60 66½	-72½ -67¾ -58 -58 -66	5200 5600 6000 9100 3850 3900 4975 6585	S-36x6 P-32x6 P-32x6 P-32x6 S-34x7 P-32x6 P-30x5 P-32x6 P-36x6 P-34x7	P-32x6d P-36x6d	Cont 7T Cont. 6B Cont. 6B Cont. 7T Own. 4R Wisc. SU Wisc. Y Cont. 6B Cont. 6B Wisc. Z	6-334x5 6-334x5 6-416x514 4-434x6 4-4 x5 6-336x5 6-334x5 6-334x5	40.8 33.7 33.7 40.8 36.1 25.6 27.3 33.7 48.6	L L L I L L	Pr Cs. Fl Pr Sp Pr.	Zen Zen Str Zen Zen Zen Zen Zen Zen	V	Opt ABos . ABos . R-Bos. Eis . Eis . Eis . Eis .	M M M M	RBos . ABos . ABos . N-E . L-N . L-N . L-N . L-N .	112 112 112 112 112 350 350	Wil Wil Wil Wil Exi Exi Exi Exi	12-110 6-111 6-111 6-111 12-140 12-220 12-220 12-220 12-220 12-220 12-220	N P N P N P N P N P N P N P	N P N P N P N P N P N P N P N P	B-L. B-L. B-L. Own B-L. B-L. B-L. B-L.	MDD MDD MDD MDD MDD MDD MDD MDD MDD MDD
Clinton 65B Clinton 65B Clinton 65BS Commerce 65 Day-Elder 20 Day-Elder 30 Day-Elder 30 Denby 36 Dorris L-6 Do	35 34 20 25 30 30 25 18 22 29 58 17-21 25 17-21 29 55 17 29 29 20 20 21 15 16 20 21 18 21 22 29 29 55 17-21 29 29 55 17-21 29 29 55 17-21 29 29 55 17-21 29 29 55 17-21 29 29 29 55 17-21 29 29 29 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	4975 4800 5 5000 5450 3535 5375 6315 7150 1775 5500 1600 1755 2760 3100	$\begin{array}{c} 184\\ 220\\ 242\\ 242\\ 2168\\ 180\\ 196\\ 224\\ 176\\ 223\\ 0\\ 156\\ 223\\ 0\\ 172\\ 218\\ 230\\ 156\\ 189\\ 172\\ 172\\ 180\\ 172\\ 180\\ 187\\ 220\\ 220\\ 158\\ 164\\ 184\\ 184\\ 184\\ 184\\ 184\\ 184\\ 184\\ 18$	68 68 68 74 72 72 70 70 73 56 60 68 67 75 88 71 71 75 68 77 57 56 57 57 57 58 56 57	-74	6600 8220 5500 5600 7000 4480 6450 6700 5450 6850 6850 6900 †† † † 13700 3800 3400 3400 3400	P-36x6 S-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-34x7 P-32x6 P-34x7 P-32x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x6 P-36x7 P-36x6 P-36x7 P-36x6 P-36x7 P-	P-36x6d S-36x6d P-36x6d P-36x6d P-36x6d P-36x6d P-36x6d P-36x6d P-32x6d P-34x7d P-36x8d C-34x7d P-36x8d C-34x7d P-36x6d P-36x7d P-36x8	Buda. EBU Buda. YBU Cont. 14B Buda. KBU Cont. 6B Buda. BUS Cont. 6B Own. 6-8 Own. 6-8 Own. 6-8 Own. 6-8 Cont. 6B HaS. 75 HaS. 75 HaS. 75 HaS. 75 HaS. 75 HaS. 75 Cont. 6B Buda. BUS Wisc. YB Buda. GL Buda. GL Buda. GL Buda. GL Cont. 6B Con	6-41/2x51 6-41/2x552 4-4 x552 6-33/2x5 6-33/2x5 6-33/2x5 6-41/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512 6-33/2x512	25.6 27.4 38.4 48.6 48.6 38.4 24.0 27.3 33.7 27.3 33.7	L	FI Pr Pr Cs Pr	Zen. Zen. Zen. Zen. Zen. Zen. Zen. Zen.	V. V	Opt ABos . Eis Eis RBos . ABos . ABos .	M M M	RBos . RBos . L-N	100 75† 75† 300† 75† 75† 300† 108 1125 300 300 1† 1† 1125 225	PrePreWil. Wil. Wil. Wil. Wil. Wil. Wil. Wi	6-153 6-153 12-130 12-130 6-139 6-240 12-240 12-120	Opt	†† †† †† †† †† †† †† †† †† †† †† †† ††	B-L. B-L. B-L. B-L. B-L. B-L. B-L. B-L.	MDD
Grass Premier		5200			-58		P-32x6	P-32x6d	Wauk6A	1		L		Str	V		М	ABos.	tt	Wil	12-	N P	40	B-L.	MDD
Guilder	21 30 18 27 36 24 12-14 18-20 27-34 20	2350	180 191 145° 186° 246 220 150 180 250 182	60 64 60 69 68 56 68 59	-58 -60 -70 -60 -66 -72 -68 -56 -68 -75 -57 -60	4500 6000 4700 4900 6800 7500 2940 5900 8500 4000	P-32x6 P-32x6 P-36x6 P-32x6 P-32x6 P-38x7 P-36x6 P-33x5 P-32x6 P-32x6 P-32x6 P-32x6	P-32x6 P-32x6d P-36x6 P-32x6 P-32x6d P-38x7d P-36x6d P-33x5 P-32x6d P-38x7d P-34x7 P-32x6	Cont.	8 6-3 ³ / ₄ x5 6 6-4 x5 ¹ / ₈ 1 4-4 x5 8 6-3 ³ / ₄ x5 1 6-4 x5 ¹ / ₈ 8 4-3 ¹ / ₂ x5 6 6-3 ³ / ₄ x5 6 6-3 ³ / ₈ x5	33.7 38.4 25.6 33.7 48.6 38.4 19.6 33.7	L L L L L	Pr Cs. Fl Pr. Pr Cs. Pr Cs. Fl Pr. Pr Cs. Fl Pr. Pr Cs. Pr Cs. Sp Pr. Pr Cs. Pr Cs.	Str Zen. Str Str	V. V. V. V. V. G. V.	ABos . ABos . Eis . RBos . RBos . Rem . Opt . Opt . Remy .	B M M M B	ABos. ABos. L-N. L-N. Del. N-E. Rem. Rem. Rem. Remy ABos.	180 180 250 130 200 250 120	Wil Wil Wil Wil Wil Pre Pre Pre Pre Pre	12-130 6-205 6-100 6-205 6-205 6-153	N P	N P 30 N P N P N P N P N P N P N P N P	B-L. B-L. B-L. B-L. B-L. B-L. B-L. B-L.	MDD SP MDD, MDD MDD MDD SP MDD MDD SP MDD MDD
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LarrabeeXH31	21	3525		60			P-32x6	P-32x6d	Cont6E	1			Pr Cs.	-	1		_	ABos.	120	Exi	6-240		††	B-L.	MDD
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ABBREVIATIONS: °—Others furnished.

- Others furnished.

 At extra cost.

 Gas Electric
 Prices on application.

 Generator only.

 Manufacturers did not furnish
- information.
- t-Also Fabric Joints
 ABos—American Bosch.
 A-L—Auto-Lite.
 A-P—Air Pressure.
 B—Battery.
 B—Balloons (Tires).

- Bal—Ball and Ball.
 BM—Battery and Magneto
 B&B—Borg & Beck.
 BG—Bevel Gear.
 B-L—Brown Lipe.
 Blo—Blood.
 B-PS—Bevel Pinion and Sector.
 C—Cushion.
 C&L—Cam and Lever.
 Ce—Centrifugal.
 Cin—Cincinnati.
 Cla—Clark.
 Col—Columbia.
 Con—Connecticut.
 Cont—Continental.

- Cot—Cotta
 Cov—Covert Cot—Cot
 d—Dual.
 D-A—Disk Aluminum.
 Day—Dayton.
 D-C—Disc Cast Steel
 DD—Dead.
 Del—DeJon.
 Del—Delco.
 Det—Detroit.
 Dir—Direct.
 D-P—Disk Pressed Steel.
 DR—Double Reduction.
 Dtl—Detlaff.
 E—Free End.
 Eat—E Cot-Cotta.

- Eat-Eaton.
- Edl—Edison.
 E-Ds—External Drive-shaft.
 E-Fw—External Four Wheel.
 Eis—Eisemann.
 Eng—Engine.
 E-Rw—External Rear Wheels.
 Exi—Exide.
 F—In Head and Side.
 FA—Drive taken through Front
 Axle.
 F&Ds—Front Wheels and Driveshaft.
 FF—Full Floating.
 FI Pr—Full Pressure to all Main
 Bearings. -Edison.

- Ful—Fuller.
 G—Gravity.
 Gem—Gemmer.
 Gou—Gould.
 HaS—Hall Scott.
 Herc—Hercules.
 Hob—Hobson.

- Hob—Hoosier.
 Hyd—Hydraulic.
 I—In Head.
 I-Da—Internal Driveshaft.
 I-Fw—Internal Four Whea.
 IG—Internal Gear.
 Ind—Indestructible.

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- MISSION

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- B-L. B-L. Own. Det.. Eng. SeU. SeU. SeU. Eng. SeU. Eng. Eng. Eng.
- Own. B-L. B-L. B-L. B-L. B-L. B-L. Eng.
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- B-L. Eng. Eng. Own.
- Eng. Eng. Eng. Own. Cot. Cot .. Eng
- B-L. B-L. Own Own. B-L.
- I-Rw-In
- Jac-Jaco Lav-Lav L-L Hea L-N-Lee
- Lvc-lye
 M-Magr
 M-Meta
 MOD-M
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Type

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Bus Specifications Motor

designed and sold exclusively for Passenger Transportation see models having & sign in "American Gasoline Truck Specifications"

L-Rw—Internal Rear wheel.
Jac—Jacox.
Lav—Lavine
L—I. Head.
L—N—J.eece Neville.
Lve—J.ycoming.
M—Magneto.
M—Metal (Shackles).
M-OD—Multiple Dry Disk.
M XE—Merchant & Evans.
Nien—Mechanical.
Mich—Michigen
Mot—Motor Wheel.
Man—Munsey
N-E—North East.

N-P—No Provision.
Opt—Optional.
P—Pneumatic (Tires).
P—Pressure (Fuel Feed).
Pet—Peters.
Pic—Pick.
Pow—Power Operated.
PrCs—Pressure to all crankshaft and connecting rod bearings; splash to other parts.
Pre—Prestolite.
R—Rubber.
RA—Wheels Swung from Radius Arms.

Arms.

RBos—Robert Bosch.

S—Solid.
SB—Spiral Bevel.
S-C—Spoked Cast Steel.
Sch—Schebler.
Sci—Scintilla.
SeU—Separate Unit.
She—Sheldon.
Shu—Shuler.
SI—Sleeve Valve.
Smi—Smith.
S&N—Screw and Nut.
Sne—Snead.
SP—Single Plate.
S-P—Spoked Pressed Steel.
Spi—Spicer

Spl—Splitdorf.
SpPr—Pressure to main crankshaft
bearings only. Splash to
other parts.
Stk—Standard Equipment.
Str—Stromberg.
Su—Suction.
S-W—Spoked Wood.
T—T Head.
Thi—Thiemer.
Tlim—Timken.
Torb—Torbenson (Eaton).
Uni—Universal Machine.
Un FA—Unit with Front Axle

V—Vacuum.
Vac—Vacuum.
Var—Various.
Ves—Vesta.
W-G—Warner Gear
Wauk—Waukesha.
Wes—Westinghouse.
Wil—Willard.
Wisc—Wisconsin.
Wo—Worm.
W&S—Worm ad Sector
W&W—Worm & Wheel.
Yell—Yellow Sleeve.
Zen—Zenith.

American Gasoline Motor

				GENER	AL				E	NGINE						ELE	CTRIC	AL S	YSTEN	4	GOVE	RNOR	1	TRANS
MAKE AND			:		(Lbs.)		es, id Sizes	_	ders, (Ins.)	rer	nt		Fue Syste		Igniti Syste		Starter	ity of	Bat	tery		ped	Clu	itch
MODEL	Passenger Rating	Price-Chassis	Standard Wheelba	Tread, Front and Rearicins.)	Chassis Weight (Frent (Ins.)	Rear (Ins.)	Make and Model	Number of Cylinders, Bore and Stroke (Ins.)	Rated Horse Power (N.A.C.C.)	Valve Arrangeme	Oiling System	Carbureter Make	Fuel Feed	Make	Current Source	ter and	Maximum Capacity Generator (Watts)	Make	Voltage and Amp. Hour Capacity	Type	Maximum Gover Speed (M.P.H.)	Make	Туре
Ree Sedan	16 21 20 25 29 20 25 29 29 29 29 61 27 18	\$2350 2470 11 11 5 5		58 -58\d 58 -58\d 60 -58 68 -72 58 -69\d 69 -72 71 -78 71 -78 74 -78 67\d 2-84\d 56 -56 56 -58	3860 3600 6900 7100 4500 5400 9500 9000 8100	P-32x6 P-32x6 P-34x7 P-36x6 P-36x6 P-30x5 P-32x6 P-34x7 P-34x7 P-34x7 P-36x8 P-32x6 P-32x6 P-32x6	P-32x6d P-32x6d P-34x7 P-36x6 P-36x6d P-30x5d P-32x6d P-34x7 P-34x7 P-34x7 P-34x6d P-32x6 P-32x6	Cont12T Cont12T Cont12T Cont14H	6-3 14 x5 4-4 x5 6241/x25 6-41/x25 6-41/x25 6-41/x25 6-41/x25 6-41/x25 6-41/x25 6-41/x25 6-38/x41/3	24.3 24.3 25.6 48.6 27.3 48.6 44.0 44.0 48.6 27.3 33.7	F L I I L L L	Sp Pr. Sp Pr. Pr Cs. Fl Pr. Pr Cs. Fl Pr. Fl Pr. Fl Pr. Fl Pr. Fl Pr. Fl Pr. Fl Pr. Sp Cs. Pr Cs.	SchSchSchSchStrZenZenZenZenStr	V V V V V V V V	N-E. ABos. ABos. Eis. Remy ABos. Eis. Eis. Eis. ABos. N-E.	B	N-E ABos Remy L-N Remy Remy N-E N-E N-E N-E N-E N-E N-E N-E	225 †† †† †† 300 300 300 300 225	Wil. Wil. USL Wes. Exi. Wil. Wil. N-E. N-E. N-E. Cin. Wil.	6-153 6-153 6-150 6-8-287 12- 6-177 12-154 12-154 12-154 12-154 12-155 12-150 12-150	N P N P N P N P N P N P N P N P N P Opt.	N P N P N P N P N P N P N P N P	Own. Ful B-L B-L B-L B-L B-L B-L B-L B-L B-L	MDD MDD MDD MDD MDD MDD MDD, MDD, MDD,
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Studebaker. N Studebaker. A Studebaker. A Studebaker. Tilling-Stevens** X Tilling-Stevens** Z Twin City DW Union. GW Union. EC Uppercu (Sig.) 220-80 Uppercu Coach S Ward LaFrance 3B White. 50A Wilcox M Tellow (Double) YZ Yellow (Single) YZ Yellow (Single) YZ Yellow X Yellow Coach X	15 20 †† 33 27 64 25 30 19 30 33 25 25 67 67 29 29 64 21	1785 2150 2150 4955 4955 4955 4955 4955	184 184 230 230 224 210 241 198° 220 240 196	58 -58 70 -80 70 -80 58 -65½ 58½-67½ 68½-80 71 -735% 72¼-763¼ 74¾-74¾	3700 †† 8860 8860 8860 8890 7500 6500 4500 7400 7400 5775 7313 7515 7515 7600 10350	P-32x6 P-36x6 S-34x6 S-34x6 P-36x6 P-36x6	P-34x7 P-32x6d P-34x7d P-36x6d P-36x6d P-36x6d P-38x9 S*-36x10 P-36x6d P-32x6d P-36x6d P-34x6d P-34x6d P-34x6d P-34x6d P-34x6d P-34x6d P-34x6d P-34x6d	Own. Own. Own. Wauk. 6Q Wauk. 6A Wauk. 6A Wauk. 6A Wise. 7 Wise. 7 Cont. 6B Wauk. 6A Wauk. DU Own. 50A Cont. 14H Own. 7 Own. 7 Own. 7	6-4½x5¾ 6-4½x5¾ 6-4½x5¾ 4-4¼x6 6-4½x5 6-3¾x5 6-3¾x5 6-4½x5¾ 4-4½x5¾ 4-4½x5¾ 6-4½x5½ 6-4¼x5½ 6-4¼x5½ 6-4¼x5½ 6-4½x5½ 6-4½x5½ 6-4½x5½ 6-4½x5½ 6-4½x5½ 6-4½x5½	36.0 36.0 38.4 48.6 48.6 28.9 48.6 27.3 33.7 48.6 28.9 48.6 25.6 43.3 43.3 43.3 29.4	L. L. L. L. L. L. L. SI. SI. SI. SI. SI. SI.	FI Pr. FI Pr. FI Pr. Fr Cs. Pr Cs. Pr Cs. Pr Cs. Pr Cs. Fr Cs. Fr Cs. Fr Cs. Fr Cs. Fr Cs. Fr Cs. Fr Cs. Pr Cs. Pr Cs. Pr Cs. Fr Pr. Pr Cs. Pr Cs. Fr Cs.	Bal Bal Bal Bal Zen Str Sch Str Zen	V V V V V V V V	Remy RBos RBos RBos ABos ABos Del Sci RBos Opt Del N-E	B B M M M	Remy' Remy L-N. L-N. L-N. ABos. ABos. Del. L-N. Remy L-N. Del. N-E. N-E. N-E. N-E. N-E. N-E. N-E. N-E	†† 300 300 420 †† †† 300 300 †† †† †† 300 300 300 300	Wil. Wil. Wil. USL Exi USL Wil. Pre. Pre. Wes. Exi Wil. Opt. †† Ves. Ves. Ves. Exi Ves.	6-111 6-155 6-155 12-300 12- 12- 12-130 6-170 6-300 6-177 12-132 †† 12-100 12-100 12-100 12-100 12-100 12-100	N P. N P. N P. N P. Htt	0pt †† 32 35 35 50 Opt	B&B. B-L. Own. †† Own. Own. Own. Long. None	SP SP None. None. MDD MDD MDD MDD MDD SP MDD SP MDD SP

ABBREVIATIONS:

Others furnished

-Others furnished.
-At extra cost.
-Gas Electric
-Prices on application.
-Generator only.
-1925 Specifications.
-Manufacturers did not furnish

information.

-Also Fabric Joints

ABos—American Bosch.

-A-L—Auto-Lite.

Almt—Almetal

-P—Air Pressure.

-Battery.

-Battery.
-Balloons (Tires).

Bal-Ball and Ball. B—Borg & Beck Bevel Gear. B-L—Brown Lipe. Blo—Blood.

BM—Battery and Magneto
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C—Cushion.

C—Cushion.
C&L—Cam and Lever.
Ce—Centrifugal.
Cln—Cincinnati.
Cla—Clark.
Col—Columbia.
Con—Connecticut.
Cont—Continental.

-Cotta

Cov—Covert
d—Dual.
D-A—Disk Aluminum.
Day—Dayton.
D-G—Disc Cast Steel
DD—Dead.
DeJ—DeJon.
Del—Delco.
Det—Detroit.
Discrete

Dir—Direct.
D-P—Disk Pressed Steel.
DR—Double Reduction.
Dtl—Detlaff.

E—Free End. Eat—Eaton.

Edi-Edison.

Edl—Edison.
E-Ds—External Drive-shaft.
E-Fw—External Four Wheel.
Eis—Eisemann.
Eng—Engine.
E-Rw—External Rear Wheels.
Exi—Exide.
F—In Head and Side.
FA—Drive taken through Front Axle.
F&Ds—Front Wheels and Drive-shaft.
FF—Full Floating.
FI Pr—Full Pressure to all Main Bearings.

Ful—Fuller.
G—Gravity.
Gem—Gemmer.
Gou—Gould.
HaSc—Hall Scott.
Herd—Hercules,
Hob—Hobson.
Hoo—Hosen.
L—In Head.
L—Ds—Internal Driv

I—In Head.

I-Ds—Internal Driveshaft.

I-Fw—Internal Four Wheel.

IG—Internal Gear.

Ind—Indestructible,

Bus Production and Statistics

ACCURATE production and registration statistics regarding the motor bus industry are practically impossible to obtain at its present stage of development. When buses were first given consideration as a passenger carrying vehicle there were very few, if any, specialized bus chassis in existence.

Owners of light trucks and of passenger cars either

themselves built or had built special bodies to fit on their chassis, which would provide seating room for many more persons than was possible before. As soon as these makeshift vehicles were taken out into the highways and began to pick up passengers for hire they were called buses, and quite properly so, since they were performing a service quite different from that which they had been devoted to before alteration.

As the demand for buses grew, motor vehicle manufacturers realized that the conditions surrounding bus operations were quite different from those affecting any other type of motor vehicle and chassis and bodies appeared on the market which had been designed solely for passenger carrying work.

Production of this latter type of vehicle is carried on

Bus

MISSION

Autor

Make

Gears

SeU... SeU... Eng... Eng... Eng... Eng... Eng... Eng... Eng... Eng... Eng... SeU... SeU... Eng... Eng... Eng... Eng... Eng... Own Own Ful. B-L. B-L. B-L. B-L. B-L. B-L. B-L. Eng. . Eng. . Eng. . Eng. .

B-L. B-L. Own Eng...
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I-Rw—Inter Jac—Jacox. Lav—Lavine L—L Head. L-N—Leece Lyc-Lycom M-Magneto M-Metal (S M—Metal (S MDD—Mult M&E—Merc Mec—Mecha Mich—Mich Mot—Motor Mun-Muns N-E-North

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Bus Specifications (continued)

MISSI	ON					REA	R AX	LE			,	BRAK	ES			SPR	INGS			R	UNNIN	IG GEA	R		
	Gears	set							Engine on		Serv	ice		Eme		Frent	Rear	ront			Steering Gear	g	Wh	eels	
Make	Location	Number of For- ward Speeds	Low Gear Reduction	Power Tire Pump	Universal Joints, Number and Make	Make and Model	Final Drive		Total Ratio from to Drive Wheels Direct	Type and Lo- cation	Operation	Action	Braking Area (Sq. Ins.)	Type and Lo-	Braking Area (Sq. Ins.)	Length and Width (Ins.)	Length and Width (Ins.)	Shackles Type, Fi	Front Axle Make	Make	Type	Outside Dia. of Minimum Turn- ing Circle (Ft.)	Make	Type and Material	MAKE AND MODEL
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I-Rw-Internal Rear wheel.

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I-Rw—Internal Rear wheel.
Jac—Jacox.
Lav—Lavine
L—I. Head.
L-N—Leece Neville.
Lyc—Lycoming.
M—Magneto.
M—Metal (Shackles).
MDD—Multiple Dry Disk.
M&E—Merchant & Evans.
Mich—Michigan
Mot—Motor Wheel.
Mun—Munsey

Mun-Munsey N-E-North East.

N-P—No Provision.
Opt—Optional.
P—Pneumatic (Tires).
P—Pressure (Fuel Feed).
Pet—Peters.
Pic—Pick.
Power Operated

Pic—Pick.
Pow—Power Operated.
PrCs—Pressure to all crankshaft
and connecting rod bearings;
splash to other parts.
Pre—Prestolite.
R-Rubber.
RA—Wheels Swung from Radius
Arms.

RBos—Robert Bosch.

S—Solid.
SB—Spiral Bevel.
S-C—Spoked Cast Steel.
Sch—Schebler.
Sci—Scintilla.
SeU—Separate Unit.
She—Sheldon.

-Solid.

She—Sheldon.
Shu—Shuler.
Si—Sleeve Valve.
Smi—Smith.
S&N—Screw and Nut.
Sne—Snead.
SP—Single Plate.
S-P—Spoked Pressed Steel.
Spi—Spicer

Spl—Splitdorf.
SpPr—Pressure to main crankshaft
bearings only. Splash to
other parts.
Stk—Standard Equipment.
Str—Stromberg.

Str—Stromberg.
Su—Suction.
S-W—Spoked Wood.
T—T Head.
Thi—Thiemer.
Tim—Timken.
Torb—Torbenson (Eaton).
Uni—Universal Machine.
Un FA—Unit with Front Axle

V—Vacuum.
Vac—Vacuum.
Var—Various.
Ves—Vesta.
W-G—Warner Gear
Wauk—Waukesha.
Wes—Westinghouse.
Wil—Willard

Wauk—Waukesna.
Wes—Westinghouse.
Wil—Willard.
Wisco—Wisconsin.
Wo—Worm.
W&S—Worm and Sector
W&W—Worm & Wheel.
Yell—Yellow Sleeve.
Zen—Zenith.

by relatively few companies and fairly accurate statistics of their output are available. Nobody knows, however, and it would be very difficult to estimate, how many passenger car and truck chassis after leaving the factory and being included in the total production figures of their particular type are equipped with bus bodies and go to swell the ranks of these passenger carrying

As long as passenger car and truck chassis continue to be used for bus purposes it appears that about the only accurate way to determine the production of buses -defined as vehicles capable of carrying more than seven passengers but without reference to the chassis upon which they are mounted—would be to determine the number of bus bodies made or sold. Each chassis,

whether it is designed originally for bus use, as a passenger car or as a truck must be equipped with a proper body before it can be used as a bus.

Although this offers possibilities for obtaining accurate production data it would probably be impracticable because of the great number of companies who make bus bodies.

In the accompanying tables of bus body specifications a number of bus body builders are listed. All of these companies have a standard body design which they build and sell as their own product. For each one of these there are at least five other companies who build bus bodies to order only. Although the production of many of these concerns may be small individually, in total they represent a fair proportion of all bodies built.

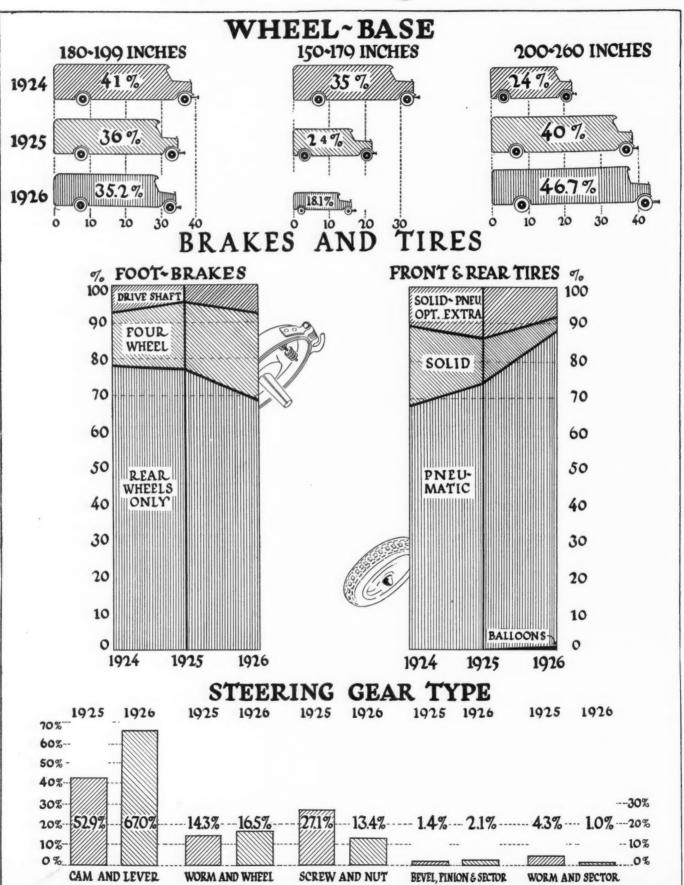
American Bus Body Specifications

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American Bus Body Specifications

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		Front Ventilator Location		ESC ESC ESC TESC TESC ESC ESC ESCH-AW ESCH-AW	TW (17W (17W (17W (17W (17W (17W (17W (17	H H H FQ-H H-TW-FQ ESC-H-AW. ESC-H-AW.	ESC-H-AW. H-AW. H-TW.	Sed—Sedan Sp. Lea.—Spanish Le Sp. Lea.—Spanish Le St.—Steen Tern—Ternstedt Mfg TW—Through Windshie Var—Variable Vei.—Venect Vvi.—Venect Vv
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03		No. of Single Seats	Z	X.X.Z. X. Z. X.	LowXXXgg 2	N N Z Z ZZ XX	ZZZ	gh Hywydd Haywydd Wod City City City City Chen rpen ree chen ree c
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- 1		Leaded (In.)	F	21111111111111111111111111111111111111	24 24 24 44	133 133 133 163 163 163 153 153		H—Hick H—Thro Ventilih Hask—I Hd Wd— H-K—H HW—Hg W—Lea M. Lea Karp— k
		Step Height Loaded (In.)	S	66644414455			555	H—Hickory H—Through Hask—Hask Hd Wd—Has H+K—Hale- H+K—Hale- HW—Hard- IG—Inter-Ci Im. Lea—In Karp—Karp Kn-Ad—Kale Kn-Ad—Kale Kn-Ad—Kale Kn-Ad—Kale
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	('0	Body Weight Empty (Ll	BODIES FUR	10500 23 11750 2078 10265 22 10265 22 13680 21 10500 22 10750 22 10750 22 10600 7 10600 7	6430 5800 1650 10220 10800 7360 7360	\$710 \$710	5500 24 4300 25% 5400 26	
		Height Including Chassis (In.)	-	83 25 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	865.2 861.4 861.4 1065.2 991.4 991.8	95 105 105 100 104 127 127 127 127 127 127 127 127 127 127	95 109 128	rture zy Co
		(.nl) dibiW			864-888899999999999999999999999999999999	880 60000 7808 818	30 30 55 30 30 44	Canv—Canvas CDT—Chase Double Texture C.S.—Common Sonse. Ackerman-Blaesser-Fezzy Co. DIC—Double Deck City Edw—Edwards Co. ESC—Either Side of Cowl Fabd—Fabricoid of Cowl FR Bd—Fibre Board FO—Front Quarter Window
		Length (In.)		26112 89 255 8 81 2557 8 89 257 8 89 257 8 80 257 8	248 264 172 3055 33478 196 2202 2025 8	282 282 283 283 283 283 283 283 283 283	269 250 282	Board Board Board Board Board Board Board Board Board
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		Frame Material		Ash. Ash. Ash.	HWW.	48h 88 88 88 88 88 88 88 88 88 88 88 88 88	Ash.	Canv—Canvas CDT—Chase Double 7 CS.—Common Sense. Ackerman-Blaesser! DDC—Double Deck C Edw—Edwards Co. ESC—Either Side of Fabd—Fabricoid For Find—Fabricoid For Fabd—Fabricoid For Fabricoid For Fabric
		Seating Capacity		-1288888825	2558888252	51228833213	6223	Cany CDT- C.S C.S DDD-C- Edw- Fabd- Fabd- Find- Fr D- GW- GW- CAN- CODT- C
		Туре		KB SEC.	WWW BECO	SEE PC.	X PC. Z SDC	ine
	DECICNED	SIS		KKB KKB KKB KKB	Graham Y-B S Graham . J-B Mack . A-B Mack . A-B Mack . A-B W Reco. W S Reco.			Habreviations: Typical types only, complete line too large to give in full the farmer of the farmer
	5	FOR		22222222	ann. natio	les. les. Thee Thee Thee	* * *	nple l age
	DEC	5		Dorris. Fageol. Fageol. Fageol. Fageol. Fageol. Garford Garford	Graham Graham Internati Mack Mack. Reo. Reo.	Ruggles. Ruggles. Ruggles. Ruggles. Rix Wheel Six Wheel Six Wheel Six Wheel Yellow.	ello	ABBREVIATIONS: "Typical types only, complete to large to give in full A—Ash A—Ash A—Ash A—Ash A—Ash A—Aunebury Brass & Foundry Co. "Kew—A-American Carrian Wicker Co. AI—Aluminum AA—Auto Body Metal A-R—Ash Rattan A-R—Ash Rattan A-R—Ash Rattan A-A—Above Windshield A—Above Windshield
			-	L6 Dorris Fageol Fageol Fageol Fageol Fageol Garfor Garfor Garfor	202 232 G 232 G 232 G SL III NN NN NN NN NN NN NN NN NN NN NN NN	12256522222 1255652222222	Z-29 Yellow. Z-56 Yellow	ABBREVIATIONS: "Typical types only, complete to large to give in full ABF—Amesbury Brass & Foundry Co. Reday Wicker Co. AI—Aluminum AM—Auto Body Metal AR—Ash Rattan Works AR—Ash Rattan Works AM—Above Windshield
	L				S. P. S.	60-P-19 6-S-21 70-P-27 70-S-29 63 X-21 X-21	2.2	ABBREVIATIONS: Typical types only, too large to give in A-8h meebury Bra & Foundry Co. & Foundry Co. Wicker Co. Wicker Co. Al—Aluminum AM—Ah Rattan MA—Ah Rattan MAW—Ah Rattan MAW—Ah Rattan MAW—Ahove Windship
	BODY WAKE	EL			Graham Bros. Graham Bros. International Har. Mack. Mack. Mack. Ree Ree	9900	: " !	BBREVIATION [Yptical types Too large to g Ash mesbun BF—Amesbun R Foundry C R
	>	AND			Graham Bros. Graham Bros. International Ha Mack Mack Meck Ree Ree	Ruggles. Ruggles. Ruggles. Six Wheel. Six Wheel. Six Wheel. Yellow Coach.	ellow Coach. ellow Coach. ellow Coach.	VIII ty
	6	Σ		# # # # # # # # # # # # # # # # # # #	man	Ruggles. Ruggles. Ruggles. Ruggles. Six Wheel. Six Wheel. Six Wheel. Yellow Coac	3 3 3	BRE BRE Picke Four Four Alu-Alu-Alu-Alu-Alu-Alu-Alu-Alu-Alu-Alu-
	2			Dorris Fageol Fageol Fageol Fageol Garford Garford	Graha Intern Mack Mack Mack Ree Ree	Ruggles Ruggles Six Whe Six Whe Six Whe Yellow (111	A A B A B A A B A A B A A B A B A B A B

Motor Bus Design Trends



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British Gasoline Motor Bus Chassis Specifications

					GE	NERAL				1	ENGIN	E			TRAN	NSMISS	ION	RE	AR AX	LE	BRAI	CES	DIN	MENSI	IONS
		We	ight			Tire:	s Type I Size		ers Ins.)	*	Fu Syst		Ignit	ion		Gear	rset			Ratio				Ove	erall
MAKE	Seating Capacity	Chassis Only (Lbs.)	Body Maximum (Lbs.)	Wheelbase (Ins.)	Tread Rear Wheels (Ins.)	Frent (Ins.)	Rear (Ins.)	Number of Wheels	Number of Cylinders Bore and Stroke (Ins.)	Valve Arrangement	Carbureter Make	Fuel Feed	Make	Current	Clutch Type	Location	Number of Forward Speeds	Туре	Final Drive	Total Reduction R High Gear	Lecation	Operation	Fleer Height (Ins.)	Length (Ft. and Ins.)	Width
A. E. C. A. A. E. C.	20 24 28 30 50 20 57 64 14 20 26 31	5490 5440 55266 655710 5	23000 2280	1666 1168 1187 1186 1187 1186 1187 1186 1187 1186 1187 1186 1192 1192 1192 1192 1192 1193 1193 1193	62 65 65 63 776 66 62 66 770 66 66 62 66 670 773 69 276 66 61 66 64 720 64 64 64 64 720 65 66 67 67 67 67 67 67 67 67 67 67 67 67	P-36x6	P-36x6d P-36x6d P-36x6d P-36x6d P-36x6d S-40x5d S-40x5d S-40x43/d P-36x6d P-36x6d P-36x6d P-36x6d P-36x6d P-36x7 P-32x6d P-36x6d P-36x6d P-36x6d P-36x6d P-36x6d P-32x6d P-32x6d P-32x6d P-32x6d P-32x6d P-36x6d P-32x6d P-35x6d P-36x6d	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	44.00x5.50 44.25x5.50 44.25x5.50 44.25x5.50 44.25x5.50 44.35x4.75 44.25x5.50 44.35x4.75 44.33x4.75 44.33x4.75 44.33x4.75 44.00x5.50 44.10x5.51 44.72x5.51 44.72x5.51 44.72x5.51 44.10x5.51 43.3x5.50 44.10x5.51 44.10x5.51 43.3x5.50 44.10x5.51 44.10x5.51 43.3x5.50 44.10x5.51 43.3x5.50 44.10x5.50 44.10x5.50 44.10x5.50 44.10x5.50 44.10x5.50 44.10x5.50 44.10x5.50 44.33x5.50 44.33x5.50 44.33x5.51 44.33x5.51 44.33x5.51 44.33x5.51 44.33x5.51 44.33x5.50 44.25x5.50 63.77x5.11 44.33x5.51 44.25x5.50 64.30x5.50 64.30x5.50 64.30x5.50 64.30x5.50 64.30x6.00 64.75x6.00 64.75x6.00 64.75x6.00 64.75x6.50 64.00x5.50 64.00x5.50 64.75x6.50 64.75x5.50 64.75x5.50 64.75x5.50	L. L	Cla. Zen. Zen. Zen. Zen. Zen. Zen. Zen. Zen	V. V	Opt. Simms Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt.	M	S P.	Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep.	4 4 4 Var Var 4 4 4 4 4	FREEREERS AND A CONTRACT OF THE CONTRACT OF TH	Wo Wo DR DR	6.7.7.0.6.7.0.6.6.6.6.6.6.6.6.6.6.6.6.6.	Rw T&Rw T&Rw Rw Fw T&Rw T&Rw T&Rw T&Rw T&Rw T&Rw T&Rw T&R	Mech Mech Mech Mech Mech Mech Mech Mech	300 266 264 311 323 323 323 323 323 324 324 324	$\begin{array}{c} 22-8\\ 24-6\\ 022-10\\ 26-4\\ 225-6\\ 026-4\\ 225-6\\ 021-6\\ 0221-6\\ 0$	6-1-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-

ABBREVIATIONS:
Cla—Claudel,
Co—Cone,
d—Dual,
Dai—Daimler,
DR—Double Reduction.
Eng—Unit with Engine.
F—Valves in Head and Side.
FF—Full Floating.
FF—Four Wheels.

G-E—Gas-Electric Type.
G—Gravity Feed.
IG—Internal Gear.
L—Valves on One Side,
M—Magneto.
MB—Magneto and Battery.
MD—Multiple Disk.
Mech—Mechanical.
O—Overhead Valves.
Opt—Optional.
P—Pneumatic.

Rw—Rear Wheels Only.
S—Solid.
SB—Spiral Bevel.
SI—Sleeve Valve Type.
SP—Single Plate.
SmI—Smith.
Sep—Separate Unit.
Sol—Solex.
T—Valves Both Sides.
T&FW—Transmission and Four Wheels.

T&Rw—Transmission and Rear Wheels.
V—Vacuum Feed.
Vac—Vacuum Operted (Brakes).
Var—Variable.
Wat—Watford.
Wo—Worm.
Zen—Zenith.
*—Driver Beside Engine.
†—Front Brakes Extra.
‡—Front Wheel Drive.

American Electric

	Tens	Weight	CHASSI	S PRICE	Wheel	TYPE	RES, AND SIZE		MOTORS			Co	ONTROLLER			DRIVE	
MAKE AND MODEL	Capa- city	with Battery (Lbs.)	With Battery	Without Battery	Base (Ins.)	Front (Ins.)	Rear, (Ins.)	Location	Make	Num- ber	Total Horse Power	Location	Lever Location	Number of Forward Speeds	First Reduc- tion	Final Drive	Tota Gear Redu tion
Autocar Autocar Autocar Autocar Autocar Autocar C-T Electric H1- C-T Electric F1- C-T Electric F- C-T Electric A- C-T Electric A- Electric A- Electric A- C-T Electric A- Electric A- C-T Electric A- Electric A- C-T Electric A- Electric	\$\frac{1}{2}\frac{1}{4}	Var Var Var Var Var Var Var Var Var Var	Var	\$2400 2800 3200 4000 4300 4300 1870 2500 6000 1000 2500 2500 6000 1000 2500 3500 3500 3500 3500 3500 3500 3	122 168 124 133 146 115 128 107 135 143 114 94 101 114 131 141 150 88 91 96 108	S-34x4 S-34x5 S-34x5 S-34x5 S-34x7 S-36x3½ S-36x3½ S-36x3½ S-36x3½ S-36x3½ S-36x4 S-36x6 S-36x6 S-36x6 S-36x7 S-36x6 C-36x6 C-36x6 C-36x6 C-36x6 C-36x6 S-34x4 S-36x4 S-36x4 S-36x4 S-36x4 S-36x4 S-36x4 S-36x4 S-36x5 S-36x6 S-33x3½ S-36x4 S-36x5 S-36x6 S-33x3½ S-36x4 S-36x5 S-36x6 S-33x3½ S-36x4 S-36x5 S-36x6 S-36x5 S-36x6 S-36x5 S-36x6 S-36x5 S-36x6 S-36x5 S-36x6 S-36x5 S-36x6 S-36x6 S-36x5 S-36x6 S-36x6 S-36x5	S-34x5 S-34x6 S-36x8 S-36x12 S-36x4 S-36x4 S-36x4 S-36x5 S-36x5 S-36x5 S-36x5 S-36x5 S-36x5 S-36x5 S-36x5 S-36x5 S-34x6 S-36x5 S-34x6 S-36x5 S-34x6 S-36x64 P-32x4 P-29x4 S-36x64 P-32x4 S-36x5 S-36x6	Under S. Under S. Under S. Under S. Under S. Under S. Unit with R A. Unit with J S. Unit with R A. Unit with B A. Unit with D S.	G E	1 1 1 1 1 2 2 2 2 2 2 2 4 4 2 2 2 2 2 4 4 2 1 1 1 1	3 4½ 6 7½ 4½ 4½ 4½	Under S. Steer C. In Constant S. Steer C. Under F. Under F. Under F. Under F. Under F. Under F. Under S. Under F.	Left of S. Below S W.	55 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 4 4 4 4 5	Spur Spur Spur Spur Spur Spur Spur Spur	S-Cha Spur Spur Spur Spur Spur Spur Spur	10.6 10.6 13.7 13.6 11.5 11.5 11.5 11.5 11.5 12.1 12.1 12.0 13.4 14.6 14.6 14.6 14.6 14.6 14.6 14.6 14

ABBREVIATIONS:

**—And Westinghouse.

†—Pneumatics optional.
Back S—Back of Seat.
Below S W—Below Steering Wheel.
C—Cushion.

D—Dual.

½ Ell—½ Elliptic.
½ F—Semi-Floating.
Flo—Full Floating.
G. E.—General Electric.
Left of S—Left of Seat

Left of S W—Left of Steering Wheel.
On F & R Axles—On Front and Rear
Axles.
Opt—Optional.
P—Pneumatic.
Plat—Platform.

R Cha—Roller Chain.
Rad Rods—Radius Rods.
Rad & Spr—Radius Rods and Springs.
Right of S—Right of Seat
S—Solid.
S Cha—Silent Chain.

American Gasoline Rail

	G	ENER/	AL CHA	RAC	TERIS	TICS				ENGI	NE				EL	ECTRIC	CAL SY	STEM			TRA	NSMI	SSION		
		Weig	hts	city	Ove	rall	Wheels		lers (Ins.)	Horsep	ower			Igniti	on			Bat	ttery	Cli	utch		Gearse	ŧ	
MAKE AND MODEL	Type of Car	Total Weight of Car (Lbs.)	Weight on Driving Wheels (Lbs)	Passenger Capaci	Length, FtIns.	Width, FtIns.	Total Number of W	Make	Number of Cyling Bore and Stroke	Rated (N.A.C.C.)	Brake	R.P.M. at Norma Track Speed	Location	Make	Current Source	Generator Make	Starter Make	Make.	Voltage and Amp. Hrs. Capacity	Make	Туре	Make	Number of For- wardandReverse Speeds	Location	Sanders Tyne
Brill 65 Brill 75 Brill Gas Elec. Brill-Westingh250 Edwards 45 Edwards 9 Electro-Motive SE Mack ACP Mack ACM Mack AB Meister 30	Spe Spe Spe Spe Spe CAT. CAT. Spe Spe	29000 34000 53000 78000 95000 50000 39000 70000 60000 22000 12270 16000 24300 60000	20000 30000 40000 57000 35000 28000 38000 9000 7000 12000 17500	Var Var 53 65 41 54 64 35 30 30 50	56-0		8 8 8 8 8 8 8 6 6 8	Midw. Ster Wint. Ster Own. Buda Wint. Wint. Own. Own. Own. Midw. Wisc. Ster	4-434x6 6-61x7 6-334x63 6-714x8 6-412x6 4-5 x6 4-5 x6 4-5 x6 4-5 x6 4-414x5 6-534x7 6-534x7 6-534x6	126 48.6 40.00 117.6 117.6 80.00 40.00 28.90 36.10 79.35	68 120 200 180 250 100 60 200 200 150 50 30 50 120 245	1300 1200 1100 1600 1200 1000 1250 1250 1425 1000 1000	Fin B Fin B Fin B Don T Don T Don T Don T Don T Fou B Fou B Rin B.	Scin N-E Scin Opt Opt N-E. Spli Spli Bosch Bosch	M M M M M M M M M M	L-N G-E L-N L-N G-E G-E N-E N-E L-N	L-N N-E L-N L-N G-E G-E N-E N-E	Exi Exi Exi Exi Exi Exi Exi Opt Opt Exi Exi Exi Exi Exi Wil	32-215 32- 12-80 32-150	Own Own. Ele Ele Cot Ele Ele Own Own Own Own Det Det	Ele MDD. MDD. Ele Ele S P S P MDD. MDD. MDD. MDD.	Own. Ele. Cot. Cot. Ele. Ele. Own. Own.	5-5 5-5 Var Var Var Var 4-4 4-4 4-4 4-4 4-4	Se U . Eng Axle	

ABBREVIATIONS:

A&E—Air and Electric.
A&M—Air and Manual.
Auto—Automobile Type.
Axle—Unit with Axle.

B-Battery

B-L-Brown-Lipe.

C—Coil.
CAT—Converted Auto Truck.
C-FE—Elliptic, Coil.
C-Te—Coil, Transverse Elliptic.
Cha—Chain.
Cot—Cotta.
C-S—Coil and Semi-Elliptic.

DE-Double End.

Det—Detlaff.
DonT—Directly on Trucks.
DR—Double Reduction.

Ele-Electric.

Eise—Eisemann.
Eng—Unit with Engine.
Exi—Exide.

F—Front.
FE—Full Elliptic.
FinB—Front Inside Body.
FouB—Front Outside Body.
F&R—Front and Rear.
G-E—General Electric.
Gra—Gravity.
Hell—Helical Gear.

Auto

Type of Axle or Jack-shaft

Sep U Steer Tor A U H & seat Under

F&R. F&R. F&R. F. F&R. R. R. R. R. R. F&R.

HeS-L-FE-L-X-L-N-M-N Man-MDD MDO

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ngs.

Truck Specifications

	DRIVE		6	Distance		PE INGS	P	ERFOR	MANCI	3				BATT	ERY					
Type of Axle	Propulsion Taken	Torque Taken	Steering Wheel Location	Ground to Top of Frame at Dash (Ins.)	Front	Rear		s per arge	Spee M.P.		Location	Make	Model	Price	Volt-	Am- pere Hour	Num- ber	Num- ber	Num- ber	MAKE AND MODE
or Jack- shaft	Ву	Ву		()			Load- ed	Light	Load- ed	Light					age	Capa- city	of Plates	Cells	of Trays	
lo	Springs	Springs	Left	31	1/2 Ell.	Plat	Var	Var	Var	Var	Under F A	Opt	Var	Var		Var	Var	Var	Var	Autocar
0	Springs	Springs	Left	31	1/2 Ell .	Plat	Var	Var	Var	Var	Under F A	Opt		Var	Var	Var	Var	Var	Var	Autocar
lo	Springs	Springs	Left	34	1/2 Ell .	1/2 Ell . 1/2 Ell .	Var	Var	Var	Var	Under F A	Opt		Var	Var	Var	Var	Var	Var	Autocar
0	Springs	Springs	Left	34	1/2 Eli .	12 Ell .	Var	Var	Var	Var	Under F A	Opt		Var	Var	Var	Var	Var	Var	Autocar
0	Springs	Springs Rad & Spr.	Left	34 331/4	1/2 Ell . 1/2 Ell .	1/2 Ell . 1/2 Ell .	Var	Var	Var	Var	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric
lo	Rad & Spr.	Rad & Spr.	Lett	3374	1/2 Ell.	1/2 Ell.	55	Var	13 13	14	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T ElectricH1
lo	Rad & Spr.	Rad & Spr.	Left	328/4	1/2 Ell	12 Ell.	55	Var	13	14	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric F1
lo	Rad & Spr.	Rad & Spr.	Left	321/2	1/2 Ell	1/2 Ell.	50	Var	12	14	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric
lo	Rad & Spr.	Rad & Spr.	Left	33	1/2 Ell.	1/2 Ell.	50	Var	12	14	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric H
lo		Rad & Spr.		351/4	1/2 Ell.	1/2 Ell.	50	Var	10	12	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric F
lo	Rad & Spr.			361/2	1/2 Ell.	1/2 Ell	45	Var	9	11	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric F
ead	Rad & Spr.	Rad & Spr.	Left	381/8	12 Ell.	1/6 Ell.	45	Var	9	11	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	C-T Electric A
ead	Rad & Spr.	Rad & Spr.	Left	385/8	1/2 Ell.	1/2 Ell.	45	Var	8	10	Under F A	Opt	. Var	Var	Var	Var	Var	Var	Var	C-T Electric A-
lo	Rad & Spr.	Rad & Spr.	Left		1/2 Ell.	11/2 Ell.	45	Var	8	10	Under F A	Opt	. Var	Var	Var	Var	Var	Var	Var	C-T Electric F-
Flo.	Springs	Springs	Opt		1/2 Ell.	1/2 Ell.	40	60	15	17	U. F. F. & R.	Philco	. PX	395	84	127	11	42	6	Detroit
ead	Springs	Spring	Left				50	105	18		Under FA	Opt	. Var	Var	Var	Var	Var	42	Var	Electruck
)ead	Spring	Springs	Left				50		18		Under FA	Opt	. Var	Var	Var	Var	Var	42	Var	Electruck
ead	Springs	Springs	Left				50	105	18		Under FA	Opt	. Var	Var	Var	Var	Var	Var	Var	Electruck
Flo .	Springs	Springs	Left	28	1/2 Ell.	1/2 Ell.	50	Var	15	Var	Under S	Opt	. Var	Var	Var	Var	Var	Var	Var	Lansden
Flo	Springs	Springs	Left	34	1/2 Ell.	1/2 Ell.	50	Var	15	Var	Under F A	Opt	. Var	Var	Var	Var	Var	Var	Var	Lansden
Flo	Springs	Springs	Left	36	1/2 Ell.	1/2 Ell.	45	Var	14	Var	Under F A		Var	Var	Var	Var	Var	Var	Var	Lansden
lo	. Rad Rods	None	Left	39	1/2 Ell.	1/2 Ell .	45	Var	12	Var	Under F A	Opt	. Var	Var	Var	Var	Var	Var	Var	Lansden
lo	Rad Rods	None	Left	39	1/2 Ell .	1/2 Ell.	40 55	Var	10	Var	Under F A	Opt	. Var	Var	Var 84	Var	Var	Var	Var	Milburn
lo	Springs	Springs			1/2 Ell . 1/2 Ell .	1/2 Ell.	50	80	17	19	UH&US UH&US	Opt	Var	Var	84	Var	Var	42	2	Milburn
lo	Springs Rad Rods	Springs For Arm	Left		1/2 EII	1/2 EII	48	65 52	15 13	17 15	Under F A.	Opt	Var	Var	Var.	Var.	Var	Var	Var	O. B.
Dead Dead	Rad Rods.	For Arm.	Left		1/2 Ell	1/2 Ell	48	52	10	11	Under F A.	Opt	Var	Var	Var.	Var.	Var.	Var.	Var	O. B.
Dead	Rad Rods.	For Arm	Left		1/2 Ell	1/2 Ell	42	45	10	ii	Under F A.	Opt	Var.	Var	Var	Var.	Var.	Var.	Var	O. B.
2 F	Springs	For Arm.	Left	34	1/2 EII	1/2 Ell	60	70	161/2		UH&US.	Exide.	Var	Var	Var	Var.	Var	Var.	Var	Steinmetz
10	Springs	Springs	Left	31	1/2 EII		Var.	Var.	Var	Var	Under F A	Opt	Var	Var	Var	Var.	Var	Var	Var	Walker
lo	Springs	Springs	Left	34	1/2 Ell	1/2 Ell 1/2 Ell	Var.	Var.	Var	Var	Under F A	Opt	Var	Var	Var.	Var.	Var.	Var.	Var	Walker
lo	Springs	Springs	Left	35	1/2 Ell	1/2 Ell	Var.	Var.	Var	Var	Under F A	Opt	Var.	Var.	Var	Var	Var	Var	Var	Walker
lo	Springs	Springs	Left	. 40	1/2 Ell	1/2 Ell		Var.	Var	Var	Under F A	Opt	Var	Var	Var	Var	Var	Var	Var	. Walker
lo	. Springs	Springs	Left	. 40	1/2 Ell	1/2 Ell	Var.	Var	Var	Var	Under F A	. Opt	. Var	Var	Var	Var	Var	Var	Var	Walker
§ F	. Springs	Springs	. Left		1/2 Ell	1/2 Ell	. 50	60	14	15	Under F A	Phileo.	. WNT	661	85	180	13	42	2	Walter
lo	. Springs	Springs	Left	. 36	1/2 Ell	1/2 Ell	. 40	60	11	12	Under F A	. Exide	. MB1.	. 1232	85	270	17	42	8	Walter
lo	Springs	Springs	. Left	. 41	1/2 Ell	. 1/2 Ell	. 40	50	10	11	Under F A	Exide.	MU1.	. 1655	85	375	23	42	12	Walter
2	Springs	Springs	Left	. 29	½ Ell	1/2 Ell	. Var	. Var	Var	Var	Under S	. Opt	. Var	. Var	Var	Var	. Var	Var	Var	. Ward
2 F	. Springs	Springs	. Left	. 30	1/2 Ell	1/2 Ell		. Var	Var	Var	Under S	. Opt	. Var	Var	Var	. Var	Var	Var	Var	. Ward
2 F	. Springs	Springs	Left	. 31	1/2 Ell	1/2 Ell		. Var	. Var	Var	Under S	. Opt	Var.	. Var	Var	. Var	Var.	Var	Var	. Ward
2 F	Springs	Springs	. Left	. 32	1/2 Ell	1/2 Ell		Var	. Var	Var	Under S	. Opt		. Var	. Var	. Var	. Var	Var.	. Var	. Ward
2 F	. Springs	Springs	Left	. 33	1/2 Ell	1/2 Ell		Var.	. Var	Var	. Under S	. Opt	Var.	Var	Var	. Var	Var	Var	Var	. Ward
2 F	Springs	Springs	Left	. 341/2	1/2 Ell 1/2 Ell	1/2 Ell		. Var	. Var	Var.	. Under S	. Opt		Var	. Var	. Var	Var	. Var	Var.	. Ward J
2 P	Springs	Springs	. Left	. 36	116 El	1/2 Ell	. Var	. Var	. Var	Var.	. Under S	. Opt	Var.	Var.	. Var	Var	. Var	Var	Var.	. Ward M

Sep Unit—Separate Unit. Steer C—Steering Column. Tor Arm—Torque Arm. UH&US—Under hood and under seat. Under F---Under floor board.

Under F A—Under frame amidships.
U F F & R—Under Frame in Front
and Rear.
Under S—Under Seat.
Unit with D S—Unit with Drive
Shaft.

Unit with J S-Unit with Jackshaft.
Unit with R A—Unit with Rear
Axle. Var—Varies according to make and capacity of battery employed. West—Westinghouse.

Car Specifications

	DRIV	VINC	TRUC	K		PONY		BRAI	KES			C	ONTRO	L		SPR	INGS		BODY	DIME	NSION	S	
	Whe	eels				9	Serv	rice	Emerg	ency			Transi	nission				Ove	erall		Lengt	h	
Location	Total Number	Number Driving	Axle Bearing Type	Final Drive	Number of Wheels	Axle Bearings, Type	Туре	Application	Type	Application	Car Control	Throttle	Clutch	Gearshift	Reverse	Frent Type	Rear Type	Inside Length FtIns	Inside Width FtIns.	Baggage Compt., FtIns.	Passenger Compt., FtIns	Smeking Compt., FtIns.	MAKE AND MODEL
F. F	4 4 4 4 4 4 4 4 4 2 2 4 8	4 4 4 4 4 2 2 2 2 2 2 2 2 2 2	Roller Roller Plain Roller Roller Roller Roller Opt Roller Roller	8 B	4 4 4 4 4 4 4 4 4 4	Roller. Roller. Roller. Roller. Roller. Plain. Roller. Roller. Roller. Roller. Roller. Ball. Ball. Roller.	Rail	Air	Rail Rail Rail Rail Rail	Air Air Air Air Air Air Air Air Man Man Man Man Man Man Man	S E S E Opt D E S E D E D E S E S E S E S E S E S E S E S E S E	Man. Man. Man. Man. Man. Man. Man. Man.	Man None None Man None None A&E Man Man Man Man	Man Man None None Man None None None None Man Man Man Man Man	Man . Ele Man Ele Ele A&E Man Man Man Man Man Man Man	L-1/2E. L-1/2E. L-1/2E. C-Te. -FE. L-FE. C-S. C-S. C-S. L-1/2E. L-1/2E. Rub.	L-1/2E. L-1/2E. L-1/2E. C-Te. -FE. L-FE. C-S. C-S. L-1/2E. L-1/2E. L-1/2E. C-S. C-S. C-S.	42-0 43-6 55-0 60-0 55-0 42-7 42-11 42-11 53-6 27-6 21-9 30-0 39-6 57-6	8-0 9-2 9-2 9-1 9-6 19-1 9-6 9-3 9-3 7-3 6-6 10-0	Var Var 9-5 15-0 17-9 10-10 10-10	Var Var 34-0 32-1 22-7 32-1 32-1 Var 21-4 Var 19-0 30-0	Var Var Var Var Var None None None Var None Var None Var None Var None Var Var Var Var Var Var Var Var	Brill. 55 Brill 65 Brill 68 Brill Gas Elec Brill-Westingh256 Edwards. 45 Edwards. Electre Motive SE Mack. ACP Mack. ACP Mack. AR Maister 34 Meister 55 Sykas. Pienees

HeS—Hele Shaw.
L-FE—Longitudinal Elliptic.
L-XE—Longitudinal Semi-Elliptic.
L-X—Leece-Neville.
M-Magneto.
Man—Manual.
MDD—Multiple Dry Disk.
MDD—Multiple Disk in Oil.

Midw-Midwest. N-E-Northeast. Opt-Optional. Pre-Pressure. R—Rear.
Rail—Railroad Type.
RinB—Rear Inside Body.

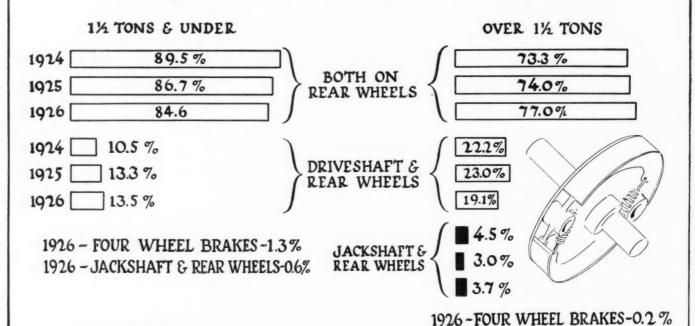
Rub-Rubber. Rub—Rubber.

SB—Spiral Bevel.
Scin—Scintilla.

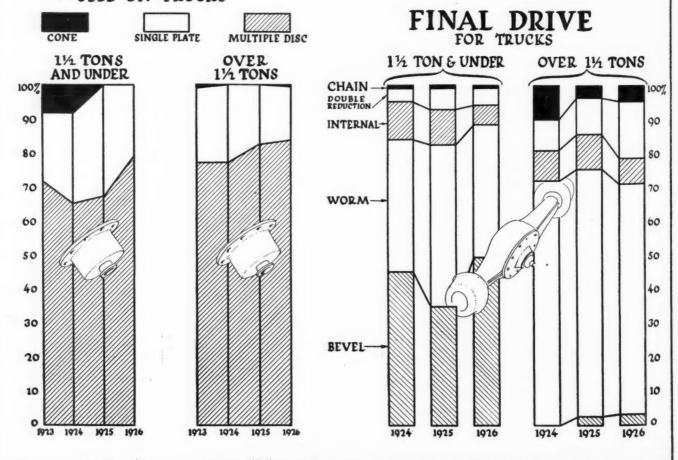
SE—Single End.
SeU—Separate Unit.
SP—Single Plate.
Sp—Spur.
Spe—Special Railroad Design. Spli—Spiltdorf.
Ster—Sterling.
StB—Straight Bevel.
Tru—Trucks.
Var—Varies.
Wil—Willard.
Wint—Winton
Wisc—Wisconsin.

Trends in American Truck Design

BRAKE LOCATION ON TRUCKS



CLUTCH TYPES USED ON TRUCKS



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CAS--C

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MODEL.	Tons Capacity	Chassis Price \$	Standard Wheelbase (In.)	Frent, Size and Type (In.)	Rear, Size and Type (In.)	Make and Model	No. Cylinders, Bere and Stroke (In.)	Governor Make	Carbureter Make	Fuel Feed	Ignition System Make	Generator and Starter Make	Make	Type	Make and Model	Universals Make	Make and Model	Final Drive	Type	Brakes	Frent Axle Make	Steering Gear Make	Wheels Make	Chassis Weight
ce 56 me Flyer cme 20L me 60L me 60L me 90L me 90L me 90L me 90L-TT me 90L-TT me 125T sen 90L-TT me 125T sen 12	1 1/2 3 5 6 4 4 1/2 3 6 7 5 7 10 3 15 1/2 3 2 4 1/2 2 1/2 3 3 6 1 1 1/2 3 2 1/2 3 3 6 1 1 1/2 2 1/2 3 3 5 5 1 1 1/2 2 1/2 3 3 5 5 1 1/2 2 1/2 3 3 5 5 1 1/2 2 1/2 3 3 5 5 1 1/2 2 1/2 3 3 1/2 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 2 1/2 3 3 1/2 3	3250 4256 4956 4956 6000 3955 5500 6000 4956 5500 6000 4956 5500 3056 5500 3056 3056 3056 3056 30	146½ 146½ 146½	S-36x6 S-36x4 S-36x4 S-36x6 S-36x6 S-36x6 S-36x6 S-36x6 S-34x4 S-36x6 S-34x4 S-36x6 P*-34x4 S-36x6 P*-34x4 S-36x6 S-34x6 P*-34x4 S-36x5	S-34x6 P-36x4d* S-36x8 S-36x6d P*-34x6 S-36x8 S-36x8 S-36x4d S-40x7d P*-34x6 P*-34x6 P*-34x7 P*-34x7 S-36x10 S-36x10	Con K4 Buda EBU Buda YBU Her OX	[4-4)2x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x6 4-4)4x5 14-4x5 14-4x5 14-4x5 14-4)4x5 1	32. 4 40. 0 40. 1 40. 1 40. 1 40. 1 40. 1 32. 4 9 32. 4 36. 1 36.	Zen.	V. V	ABo ABo ABo ABo ABo ABo ABo ABo	ABos	B-L. B-L. B-L. B & B.L. B & B. B.	D. P. P. P. P. D.	Own 5R. Own 5R. Own 2R. Own 2R. Own 3R. Own 3R. Own 3R. Own 5R. Selection of the selection	Blo. Blo. Blo. Blo. Blo. Blo. Blo. Blo.	IIII 0:339. Tim 6462. Tim 65660 Tim 65660 Tim 6760. Tim 65660 Tim 6760. Tim 65660 Tim 6760. Tim 65660 Tim 6560. Tim 6560. Tim 6560. Tim 6500. Tim	SWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	A CANCELLA CONTRACTOR OF A CANCELLA CONTRACTOR	A.A.A.A.B.B.B.B.B.B.B.B.B.B.B.B.B.B.B.B	Im 1630B Tim 1730B Tim 1730B Tim 1744. Tim 1630B Tim 1542. Tim 1632B Own 2R. Own 3R. Own 5R. Own 5R. Own 5R. Own 5R. Tim 1632B Tim 1632B Tim 1632B Tim 171m Tim Tim Tim Tim Tim Tim Tim Tim Tim Ti	Ross.	Day	

ABBREVIATIONS:

-More than one furnished

Pneumatics at extra cost
Generator and Starter at extra

Generator and Starter at extra cost
-Starter not supplied, Generator at extra cost
-Starter at extra cost
-Starter

d—Dual
D—Jackshaft and rear wheels
(Brakes)
D—Disk (Clutch)
Day—Dayton
DD—Dead

DD—Dead
Del—Delco
Det—Detlaff (Clutch and Gearset)
D-G—Detroit Gear
Dis—Disteel
Dod—Dodge
Dyn—Dyneto
E—4-Wheel Brakes

Eat—Eisemann
Eis—Eisemann
F—Floating
FF—Full Floating
FII—Film
Ful—Fuller
—Gravity
—Gray and

Ful—Fuller
G—Gravity
G & D—Gray and Davis
Gem—Gemmer
Han—Hannum
HaS—Hall Scott
Har—Hartford (Spicer)
Hay—Hayes
Her—Hercules
Hin—Hinkley
Hol—Hooley
Hoo—Hoopes (Wheels)
Hoo—Hoosier (Clutch)
H-S—Hele-Shaw
Hoo—Hoosier (Clutch)
H-S—Hele-Shaw

I—Internal Gear
Ind—Indestructible
Int—Interstate
Joh—Johnson

Joh—Johnson Jon—Phineas, Jones & Co.

Jac-Jacox K-Cone

Jac—Jacox
K—Cone
Kel—Kelsey
Kni—Kelsey
Kni—Knight (Yellow Sleeve)
Lav—Lavine (Hannum)
L-N—Leece-Neville
Lon—Long
Lyc—Lycoming
Mar—Marvel
M-E—Merchants & Evans
M-M—Mechanics Machine
Mot—Motor Wheel
Mun—Muncie
N-E—North East
Nor—Northern Wheel
O—Disk in Oil
Opt—Optional
P—Pneumatics (Tires)
P—Single Plate (Clutch)
P—Pressure (Fuel Feed)
Pet—Peters
Pic—Pick
Pru—Prudden Wheel
R—Double Reduction
Ray—Rayfield
Ros—Rojert Bosch
Roy—Royer Wheel
Rus—Russell
S—Solids (Tires)
S—Spiral Bevel (Final Drive)

Sal—Salisbury
Sch—Schebler (Carbureter)
Sch—Schwartz (Wheels)
Scl—Scintilla
She—Sheldon
Shu—Shuler
Smith—Smith

Smi—Smith
Sne—Snead
Spi—Spicer
Spi—Spittorf
Std—Standard Parts (Axles)
Std—Standard Wheel
Ste—Stewart
StM—St. Marys
Str—Stromberg

Ste—Stewart
StM—St. Marys
StM—St. Marys
Str—Stromberg or Zenith
The—Thermoid
Thei—Theimer
Til—Tillotson
Tim—Timken
Tor—Torbenseon (Eaton)
U-M—Universal Machine Co.
U-P—Universal Products
V—Vacuum
Van—Van Wheel
Ves—Vesta
W—Worm
Wal—Walker
Wal—Walker
Wal—Walker
Way—Wayne
Wes—Westinghouse
Wis—Wisconsin
W-G—Warner Gear
Woh—Wohlrab
Zen—Zenith

	G	ENER	RAL	Т	IRES		ENGIN	E			ELECT SYS		т	RAN	NSMISSION	1	REAR	R AX	LE		MISC	ELLA	NEOU	
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AND MODEL	Tons Capacity	Chassis Price \$	Standard Wheelbase (In.)	Front, Size and Type (In.)	Rear, Size and Type (In.)	Make and Model	No. Cylinders, Bore and Stroke (In.)	Governor Make	Carbureter Make	Fuel Feed	Ignition System Make	Generator and Starter Make	Make	Туре	Make and Model	Universals Make	Make and Model	Final Drive	Type	Brakes	Front Axle Make	Steering Gear Make		Chassis Weight
Biederman Brockway ER Brockway ER Brockway SK Buck S4-46 Buck	2 1 1 1 2 3 5 1 2 2 3 4 5 1 2 2 3 3 5 1 1 2 3 3 5 1 3	2500 2975 1700 2700 425 550 250 3250 3250 330 407		S-36x5 S-34x3 S-36x4 P*-34x4 P*-34x4 P*-36x4 P*-36x4 P*-36x5 S-36x5 S-36x5 S-36x6 S-35x5 S-35x5 S-36x4 S-36x5 S-36x6	P*-36x8 S-36x10 S-40x6 S-34x6 S-36x8 P*-34x5 P*-34x5	Con 6B-6 Con 6B-6 Con 6B-6 Con N-6 Con C-4 Wis 6Y Wis 6Y Wis 8U Con K4 Con K4 Con L4 Con B5 Con K4 Con L4 Con B7 Con B7 Buda WTU Buda WTU Buda WTU Buda WTU Buda KTU Con S4 Con K4 Con L4 C	4-44,255/2 4-526 4-44,255/2 4-45,25/2 4-44,255/2 4-44,255/2 4-45,2	22.5 22.5 25.6 28.9 32.4 40.0 22.5 22.5 22.5 22.5 27.2 27.2 25.6 22.5 25.6 22.5 27.2 27.2 27.2 27.2 25.6 27.2 27.2 27.2 27.2 27.2 27.2 27.2 27	Zen	V	Eis	A L O Del	B-L. B-L. B-L. B-L. B-L. B-L. B-L. B-L.	D. D	B-L 31 B-L 51 B-L 51 B-L 51 B-L 51 B-L 51 B-L 60 B-L 30 B-L 30 B-L 30 B-L 30 B-L 30 B-L 30 B-L 31 B-L 55 B-L 60 B-L 31 B-	Own Pet	Tim 5560. Col 530003. Tim 6462. Tim 6566. Tim 6760. Col 5200. Wis 66A. Own Sup. Own Sup. Cla B307. Tim 6462. Tim 7666. Tim 6760. Cla B501. Tim 6760. Cla B501. Tim 6760. Cla B501. Tim 6566. Tim 6760. Cla B501. Tim 6566. Tim 6760. Cla B501. Tim 6566. Tim 6666. Tim 6760. Cla S3008. Tim 6462. Tim 6566. Tim 6666. Tim 6760. Cla	WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	24/4444/4/1000004/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6	A. A	Shu Col Col Col Tim 1442. Tim 1452. Tim 1632. Tim 1544B Tim 1632B Tim 1732B Wis 120.I-F Tim 1544B Tim 1632B Tim 1732B Tim 1544B Tim 1520. Tim 1544B Tim 154B	Ross.	Bett, Day, Seh, Seh, Seh, Seh, Hoo, Hoo, Hoo, Hoo, Hoo, Hoo, Seh, Smi, Smi, Smi, Smi, Smi, Smi, Smi, Smi	5.000 (77.000 to 10.000 to

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		GE	NER	AL	TI	RES		ENGIN	E			SYST		Т	RAN	SMISSION		REAR	AX.	LE		MISC	ELLAP	EOUS	3
Comp	MAKE AND MODEL	Tons Capacity	Chassis Price \$	Standard Wheelbase (In.)	Front, Size and Type (In.)	Rear, Size and Type (In.)	Make and Model	No. Cylinders, Bore and Stroke (in.)	Governor Make	Carbureter Make Make		Ignition System Make	Generator and Starter Make	Make	Type	Gearset Pope Japon Work	Universals Make	Make and Model	Final Drive	Type	Brakes	Front Azle Make	Steering Gear Make	Wheels Make	Chassis Waisht
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AND MODEL	Tons Capacity	Chassis Price \$	Standard Wheelbase (In.)	Front, Size and Type (In.)	Rear, Size and Type (In.)	Make and Model	No. Cylinders, Bore and Stroke (In.)	Governor Make	Carbureter Make	Fuel Feed	Ignition System Make	Generator and Starter Make	Make	Type	Make and Model	Universals Make	Make and Model	Final Drive	Type	Brakes	Front Axle Make	Steering Gear Make	Wheels Make	Chassis Weight
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American Gasoline Truck Chassis Specifications—Continued

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AND MODEL	Tons Capacity	Chassis Price \$	Standard Wheelbase (In.)	Front, Size and Type (In.)	Rear, Size and Type (In.)	Make and Model	No. Cylinders, Bore and Stroke (In.)	Governor Make	Carbureter Make	Fuel Feed	Ignition System Make	Generator and Starter Make	Make	Туре	Make and Model	Universals Make	Make and Model	Final Drive	Type	Brakes	Front Axle Make	Steering Gear Make	Wheels Make	Chassis Weight
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American Gasoline Truck Chassis Specifications—Continued

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D-Drive shaft and rear wheels
(Brakes)
B-Straight Bevel (Final Drive)
B-B-Borg and Beck
Bet-Bethlehem
BG-Universal Machine
Bij-Bijur
Bim-Bimel
B-L-Brown-Lipe
Blo-Blood
Boa-Bosch
Bu-Buda
G-Chain (Final Drive)
Car-Carter

Det—Detlaff (Clutch and G
set)
D-G—Detroit Gear
Dis—Disteel
Dod—Dodge
Dyn—Dyneto
E-4-Wheel Brakes
Eat—Eaton
Els—Eisemann
F-Floating
FF—Full Floating
FII—Filnt
Ful—Fuller
G—Gravity

G & D—Gray and Davis
Gem—Gemmer
Han—Hannum
HaS—Hall Scott
Har—Hartford (Spicer)
Hay—Hayes
Her—Hercules
Hin—Hinkley
Hoo—Hoopes (Wheels)
Hoo—Hoosier (Clutch)
H-S—Hele-Shaw
Hoo—Hoosier (Clutch)
H-S—Hele-Shaw
I—Internal Gear
Ind—Indestructible
Int—Interstate
Joh—Johnson
Jon—Phineas, Jones & Co.
Jac—Jacox
K—Cone
Kel—Kelsey
Kni—Knight (Yellow Sleeve)
Lav—Lavine (Hannum)
L-N—Lecce-Neville
Lon—Long
Lyc—Lycoming
Mar—Marvel

M-E—Merchants & Evans
M-M—Mechanics Machine
Mot—Motor Wheel
Mun—Muncie
N-E—North East
Nor—Northern Wheel
O—Disk in Oil
Opt—Optional
P—Pneumatics (Tires)
P—Single Plate (Clutch)
P—Pressure (Fuel Feed)
Pet—Peters
Pic—Pick
Pru—Prudden Wheel
R—Double Reduction
Ray—Rayfield
RBos—Robert Bosch
Re—Remy
Roy—Royer Wheel
Rus—Russell
S—Solids (Tires)
S—Spiral Bevel (Final Drive)
Sal—Salisbury
Sch—Schebler (Carbureter)
Sch—Schwartz (Wheels)
Sci—Scintilla
She—Sheldon
Shu—Smith

SN., GC. Wood Panhard-Levassor.

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Continental Gasoline Truck Chassis Specifications

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œ	Brakes	Hand. Type & Location		ad a
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	Rear Axle	Propulsion Taken by	1	######################################
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Continental Gasoline Truck Chassis Specifications—Continued

	MAKE	MODEL		Benr-Caggenau Benr-Caggenau Benr-Caggenau Benr-Caggenau Benr-Caggenau Benr-Caggenau Bernabor Bronabor Bronabor Busing Bus
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German Specifications in Book Form

THE German Automobile Manufacturers Association (Reichsverband der Automobilindustrie) has issued a number of publications which were evidently inspired by the Handbook of Automobiles of our own N.A.C.C. There are to be four volumes, giving the specifications of passenger cars, delivery wagons, trucks, omnibuses and other classes of commercial vehicles, motorcycles and side cars and of passenger car and commercial vehicle bodies, respectively.

The first two volumes are out and copies have been received. The titles are: Teil I, Typentafeln fur Personenwagen, and Teil II, Typentafeln fur Lastwagen, Omnibusse u. s. w. The style follows closely that of the N. A. C. C. Handbook; two pages are devoted to each chassis model. At the top of the first (left hand) page is printed a photograph of the complete car, and then follow the specifications, which are grouped under the headings Engine, Transmission and Rear Axle, Frame, Front Axle and Steering Gear, Wheels and Tires, Brakes, Radiator, Chief Dimensions, Weights and Performance and Equipment. Part I contains specifications of the products of 44 manufacturers, including three Austrian manufacturers, who evidently are members of the association. Part II lists the products of 33 manufacturers of commercial motor vehicles, also including three Austrian. The books were compiled by Dr. Ing. Scholz and published by Dr. Ernst Valentin Verlag, Berlin.

N increase in the subsidy paid by the French War Department on the purchase and cost of maintenance of motor trucks suitable for military purposes and on agricultural tractors has been announced. Hereafter the subsidy on 7½ ton trucks allowed at the time of purchase will be 5000 francs, and in addition three annual maintenance premiums will be allowed, of 2500 francs each, making the total subsidy on such a truck 12,500 francs (paper.) On farm tractors a purchase premium of 4000 francs is allowed, together with three annual premiums of 1500 francs each. However, farm tractors which are capable of making long trips over the roads at considerable speed will be accorded an additional premium of 1500 francs for heavy and 1000 francs for light tractors, which must be capable of a road speed of at least 9.4 m.p.h. In the past there has been a limit on the time after coming into possession of a truck or tractor within which the owner could apply for the bonus; hereafter the military authorities may consider the application even if this time limit is exceeded, but in that case the tests to which the vehicle is subjected to determine its worthiness will be increased in duration by 50 per cent. Vehicles in services which render them exempt from requisition in case of war are excluded from the benefits of the subsidy.

ACCORDING to a French contemporary, approximately five thousand agricultural tractors were sold in France in 1925, of which about four thousand were imported. Foreign manufacturers have created a good market for their products in France by selling on time, establishing service depots at numerous central points and having tractor experts call on their owners at intervals.

British Gasoline Truck Chassis Specifications

		MAKA Harity Load Capacity Long Tons	A. E. C. B. E. C. A. E. C. B.	ABBREVIATIONS: -Others furnishedCas-electricOverhead CamshaftFront WheelsSix Wheels
		Long Tens Wheelbase (Ins.)	4 2 4 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	ن زل
		Track (Ins.)	**************************************	
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RAL	Tires	Front (Ins.)	36x4 36x44 40x514 40x514 40x514 40x514 40x514 40x514 40x514 40x514 20x41 40x514 20x41 40x514 40x514 20x41 40x514 40x514 20x41 40x514 20x514 20	CI—Cast Iron. Co—Cone. Co—Cone. d—Dual. DP—Dual Dry DR—Double R and Spur). Det—Detachal Ex—Ex—Cuit wit Ex—Ex—Cuit wit Ex—Ex—Cuit
		Rear (Ins.)	### 1930 1930	I. I. Plate Reduct able. iith Eng
		Bore and Stroke (Ins.)	4,00x5,50 4,75x5,87 2,20x3,00	CI—Cast Iron. Co—Cone. Cla—Claudel. d—Dual. DP—Dual Dry Flate. DR—Double Reduction Gears (Bevel and Spur). Det—Dead. Det—Detachable. Exp—Link with Engine. Ex—Exita.
	3	Cylinder Head Valve Arrangemen	20	
		No. of Cylinders Cast in One Piece Cylinders and Crankcase	### ##################################	F F—Full Floating. Jo F—Semi-Floating. Fi Pr—Full Pressure. F—In Head and Side. G—Gravity. Hell.—Helical Gears. H.S.—Hollow Cast Steel. H.S.—Hollow Pressed Steel. Influence of the contract of the co
	Саш	Drive	HERE HERE AND	Float II President II President V. Cal Grand Iow President
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IKA	ğ	Location	September 2 Septem	M—Magneto. Mt—Multiple-Disk. Met—Metallic. No—Valveless Two Stroke. N.M.—Non Metallic. No—One or Not Fitted. Opt—Optional. PP—Planetary. Pr. Cs—Pressure to Crankshaft Bearlings and Big-ends through Hollow
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	Spur—Straight Spur Geas Sol—Solex. Tr—Tractor Truck. T.—Tractor Truck. T.—Yalves Both Sides. Traches Both Sides. Tracher Siphon. Tracher Truck. Tracher Truck. Tracher Truck. WCS—Webbed Cast Steel Wo—Worm Gear. WW—Worm and Wheel. WS—Woom and Segment.
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Sept.	—Magneto. D—Multiple—Disk. et—Metallic. —Ayloteless Two Stroke. M.—None or Not Fitted. Overhead Valves. pt—Optional. —Pheumatic. —Planetary. —Ca—Pressure to Crankshaft Bear- nings and Big-ends through Hollow
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168 168 168 168 168 168 168 168 168 168	M—Magneto MD—Multiple—Disk. Met—Metallic. Ne—Valveless Two No—None Metallic. No—None or Not Fit Opt—Optional. P—Phenetary. Pr. Cs—Pressure to C rankshaft. Pressure to C rankshaft. Crankshaft.
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**************************************	FE-Full Floating. FF-Full Floating. FF-Full Pressure. The Full Pressure. Full Head and Side. Gravity. Fell-Helical Gears. H.C.S.—Hollow Pressed d. H.S.—Hollow Pressed d. G.—Internal on Res. Tr.—Internal Orace. Tr.—Internal Trans.
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2 <u></u>	FF—Full Floating. FF—Semi-Floating. FI Pr—Full Pressure. FI—In Head and Side. G—Gravity. Hell—Helical Gears. H.S.—Hollow Pressed Steel. Internal Gears. I. G.—Internal on Rear W. I. R. —Internal on Rear W. I. Tr.—Internal on Rear W. I. Tr.—Internal on Rear W. I. Tr.—Internal on Pour W.
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27x41/2 27x41/2 22x4 23x5 23x5 24x5 24x5	CI—Cast Iron. Co—Cone. Cda—Chadel. DP—Dual. DP—Dual Dry Plate. DP—Dual Dry Plate. DP—Dual Dry Rate. DP—Dual Dry Rate. DB—Dearly. DB—Dearly. DB—E—External. E Ry—External on Rear Wheels. E Tr—External on Rear Wheels.
	CCI CCI CCI DOP DOP ENGLERA
58888888888888888888888888888888888888	-
20	aft.
- 10-	ABBREVIATIONS: -Others furnishedOverhead CamshaftSix WheelsSix WheelsS
D	ABBREVIATIO Case-electric. Case-electric. Case-electric. Case-electric. Case-electric. Case-electric. Case-electric. Bandle Sandle Brown Case-electric. Case-Cashion (Tipe Cas

Trends in British Truck Design

CONSIDERABLE progress in design has been made during the past year by British truck engineers and the models which will be built during 1926 have a number of features which are different from previous designs.

In engine designs the tendency has been to depart from usual truck practice and by following passenger car designs more closely to produce a power unit which is more efficient. Several of the new engines are equipped with overhead valves operated usually by tappets and rocker arms but, in some cases, by overhead camshafts. Hydraulic buffers are mounted between the tappets and rocker arms of some models to reduce noise.

Automatic spark advance is used by some makers while unit power plants which are so constructed that either the engine or gearbox can be removed without disturbing the other. There is an increasing tendency to drive fans positively from the crankshaft, some models employing an enclosed silent chain drive for this purpose.

The main improvements in gear boxes lie in more accurate finish of the teeth by grinding, the use of better materials and the shortening of shafts to prevent whip.

New to British practice is a new type of vertical banjo axle from which the entire gear may be taken without removing the casing. Another unusual type is one which is dropped below the center of the wheels and which has a second reduction by internal gears in the wheels, the gearing being entirely enclosed.

Braking mechanisms have received considerable attention and the general trend has been to provide systems by which the retarding or stopping of vehicles is not entirely dependent upon the development of the driver's leg muscles. Vacuum brakes and servos of various types, usually with brakes operating on four wheels, are to be found on the newer chassis models.

THE Russian Information Bureau has informed the Automotive Division of the Department of Commerce that a passenger automobile corporation capable of turning out 3,000 to 5,000 cars annually will be formed at Leningrad within the next few months. The output will be limited at the outset to cars assembled from imported parts. Building of motor trucks, say the same authority, already has been organized and during the first three years 2,535 trucks of 1½ and 3-ton capacity will be turned out at Soviet factories.

American Agricultural

					GE	NERAL					-									ENG	INE					
														2		gui			Gove	rner	Ignit	ion		F	uel System	
MAKE AND MODEL	Price	Capacity: No. of 14" Plows	Plowing Speed (M. P. H.)	Wgt. Complete (Lbs.)	Wheel Base (Ins.)	Minimum Turning Diameter (Ft.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar Belt Rating	Steering Type	Make	Rated Horsepower (N.A.C.C.)	Number Cylinders	Bore and Stroke (Ins.)	ine Type	No. of Cyls. per Casting	Valve Arrangement	Normal R.P.M. at Plowing Speed	Make	Type	Make of System	Impulse Starter Fitted?	Make and Size of Carbureter (Ins.)	Fuel Feed	Number and Capacity of Fuel Tanks (Gals.)	Water Injected?
Adv-Rumely Oil Pull R Adv-Rumely Oil Pull L Adv-Rumely Oil Pull L Adv-Rumely Oil Pull S Allia-Chalmers 15-25 Allia-Chalmers 20-35 Allwork CA Allwork G Allwork DA Allwork DA Allwork BA Bailer W	1385 1885 1295 1495 1695 2200 3750 600	4	2 .02 3 2 .07 4 2 .08 3 1 .90 3 2 .50 4 2 .50 3 2 .75 5 2 .75 5 2 .75 5 2 .75 2 .9 1 .7 3 .3	11701 5510 7948 16150 4700 6150 5200 4800 6500 8400 9300 2500	90 80 88 115 78 94 80 75 80 87 76 86 ³ / ₄	19.5 15'0" 17'0" 22'0" 12'0" 12'0" 24'0" 19'0" 26'0" 28'0" 10'2" 8'11"	10 10 12 13	Hor. Hor. Hor. Uni. Ver. Uni. Ver. Uni. Ver. Uni. Uni.	15-25 20-35 30-60 15-25 20-35 16-30 14-28 20-35 22-40	FAK FAK FAK FAK FAK FAK FAK FAK FAK FAK	Own Own Own Own Own Own Own Own Own Own Own LeRoi	48.70 27.03 37.13 64.80 27.23 36.10 40.00 36.10 44.10 48.40 44.10 16.00	2 6 7 2 9 4 4 1 4 4 3 4 5 4 4 5 1 4	8x8 ¹ 4 x11 2x5 ¹ 4 4x6 ¹ 2 x6 4x6 4x6	Hor, Hor, Hor, Ver, Ver, Ver, Ver, Ver, Ver, Ver, Ve	2 II 2 II 2 II 1 II 1 II	H H H H L"H L"H "L"H "L"H "	755 635 470 1100 930 900 900 900 900	Own Own Own Own Own Own Own Own Own Own Own Own Own	Cent.	Bosch Bosch Bosch Dixie Eise Bosch Bosch Bosch Bosch Dixie	Yes Yes Yes Yes Yes Yes Yes Yes No		Pres . Pres . Pres . Gra . Gra . Gra . Gra . Gra . Gra . Gra . Gra . Gra .	2-11/4G-31K 2-11/4G-15K 2-14/G-15K 2-14/G-24 4K 2-2G-48 .5K 1-G20 3-G40 2-5G-25K 2-5G-25K 2-5G-25K 1-25G 1-10G	Yes Don Yes Don Yes Don Yes Don Yes Don No Tax No No Ben No Ben No W-B
Barron 100 *Bates (Steele Mule) H *Bates (Steele Mule) G *Bates (Steele Mule) G *Bates (Steele Mule) G *Bates (Steele Mule) 40 *Bates (Steele Mule) 25 Beeman K Bryan Steam Case 12-20 Case 18-32 Case 25-45 Caterpillar 2Ton Caterpillar 5Ton Caterpillar 60 Caterpillar 10Ton Cletrac K Cletrac W Eagle H Eagle H	265 2385 950 1350 2750 1950 3400 3650 5500 5950 1895 1145	3-4-4-4-4-	3 2 3 3 4 3 2 5 3 5 2 5 3 2 5 3 5 2 5 3 2 5 3 5 3	19000 3600 4850 6500 9500 6500 5500 4230 6350 9550 5100 9100 20500 3900 3455 5850 7400 8150 5000 3800 6000 2562	80 80 84 80 17 88 65 76 96	23'0" 22'0" 16'0" 16'0" 21'36" 14'0" 12'0" 14'0" 24'10" 24'10" 12'0" 14'0" 12'0" 13' 15' 16' 17' 12'6" 16' 21'0"	14 15 11 11 ¹ / ₂ 12 ¹ / ₂ 14 15 12 17 17 17 17 17	Hor. Hor. Hor. Hor. Hor. Hor. Hor. N-A Hor. N-A Hor. Hor. Hor. Hor. Hor. Hor. Hor.	15-25 18-25 25-35 30-40 20-30 2-4 15-30 12-20 18-32 25-45 15- 25-30 50-60 40- 12-20 13-25 16-30 20-40 12-25 16-30 20-40	F.A.K. F.A.K. F.A.K. T.D.M. T.D.M. F.A.K. F.A.K. F.A.K. F.A.K. T.D.M. T.	Wauk	79.35 27.23 28.90 32.40 40.00 32.40 4.8 27.23 32.40 48.40 25.60 36.10 67.60 67.60 25.60 39.20 51.20 51.20 51.20 51.20 51.20 56.00 25.60	4 4 4 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	\$\x\514 4x6 2x6 2x6 2x4 2x6 4x5 2x6 2x6 4x5 2x6 4x6 2x8 2x8 2x8 2x8 2x8 2x8 2x8 2x8 2x8 2x8	Ver. Ver. Ver. Ver. Ver. Ver. Ver. Ver.	2 2 2 2 2 2 4 4 2 4 4 2 2 4 4 4 2 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 2 4 2	L"H (H.	1100 1000 1000 1000 1000 1050 1050 1000 850 1000 650 750 450 450 450 450 450 800	Spec. Simp. Simp. Simp. Simp. Simp. Simp. None. Pick. Own. Own. Own. Own. Own. Own. Own. Own	Cent.	Spec Bosch Bosch Bosch Bosch Bosch Cown None Mag. Mag. Eise Bosch Eise Split. Eise Split. Eise Dixie Dixie Dixie Dixie Mag. Dixie Clim. Own	No Yes Yes Yes Yes No No Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Spec . Ben-1¼ . King-1½ . King-1½ . King-1½ . King-1½ . King-1¼ . Strom-1½ . Strom-1½ . Strom-1½ . Strom-1½ . Scheb-1½ . Scheb-1½ . Scheb-1¾ . Scheb-1¼ . Scheb-1	Vac. Gra. Gra. Gra. Gra. Gra. Gra. Gra. Gra	2-234G-20K 2-334G-2614 1-19G. 2-214G-3014 1-35G. 2-3G-70K. 1-46-G. 2-34G-11K. 2-34G-11K. 2-34G-12K. 2-4G-12K. 2-5G-18K. 2-5G-18K. 2-4G-20K. 1-17G. 2-3G-24K.	No Note No. Pos. No. Pos. No. Pos. No. No. No. Note No. No. Note No.
Lauson	3800 3800 5000 6250 3320 795	4 4 5 6 8 4 100 6 8 4 4 5 6 8 8 100 6 8 8 4 5 6 8 8 100 6 8 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8		6730 6990 4250 7500 7500 21000 21000 3940 4200 3700 5200 3700 5200 3700 5200 8700 6600 8700 12410 8700 12400 8700 12400 6000 4000 6000 6000 6000 6000 6000	92 140 76 83 91 120 136 137 65 74 78 91 137 78 85 64 100 87 97 136 91 136 137 137 137 137 137 137 137 137 137 137	12'6'' 34'6'' 24'0'' 24'0'' 12' 12' 12' 13'0'' 13'0'' 15'0'' 15'0'' 15'0'' 15'0'' 15'0'' 15'0'' 15'0'' 14'0	113/8 112/8 113/8 113/8 113/8 110/2 113/12 113/12 114 117 116 116 116 116 112 112 112 113/12	Hor. N-A Hor. Uni. Hor. Hor. Hor. Hor. Hor. Hor. Hor. Hor	22-40 112-24 116-30 22-410 117-24 11	T.D.M T.D.M S.A F.A.K. F.A.K. F.A.K. F.A.K. F.A.K. F.A.K. F.A.K. F.A.K. F.A.K.	Midw Own Own Clim Wis Beav Own Own Own Own Own Own Own Own Own Own	36. 20 40. 00 33. 80 48. 50 36. 10 32. 40 99. 00 33. 80 40. 00 27. 23 36. 10 28. 90 32. 40 28. 90 32. 40 28. 90 32. 40 28. 90 32. 40 28. 90 32. 40 36. 10 36. 10 48. 40 28. 90 48. 40 48. 40 48	55654447654444444446624457113135558	2x7 x612 4x6 4x6 4x6 4x6 4x6 4x6 4x7 4x9 4x6 4x6 4x6 4x6 4x6 4x6 4x6 4x6	Ver Ver Hor. Hor. Ver Ver Ver Ver Ver Ver Ver Ver Ver Ver	2 2 2 2 2 2 1 1 2 2 2 2 4 4 2 2 1 1 1 4 4 2 2 2 2	"L"H "H. "L"H "H. "H "H. "H "H "H "H "H "H	1000 800 750 800 1000 1000 1000 1000 1200 600 900 1000 1000 1200 550 1200 550 1200 1200	Own Own Own Taco Taco Taco Taco Taco Taco Own	Cent.	K-W. Split. K-W Dixie Split. Split.	Yes. Yes Yes Yes Yes No Yes Yes Yes	King-2 Scheb-11/2 Zenith-11/2 King-11/2 King-11/2 King-11/2 King-11/2 King-11/2 King-11/2 King-11/2 King-11/2 King-2 King-2 King-2 King-2 King-2 King-2 King-11/2 King-11/2 King-11/2 King-11/4 King-11/2 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4 King-11/4	Gra. Gra. Gra. Gra. Gra. Gra. Gra. Gra.	1-35G 2-1G-14K 2-1G-23K 2-1G-29K 2-1G-29K 1-30G 1-44G 1-70G 1-29G 2-21/2G 2-21/2G 1-20G 1-20G 1-20G 1-30G 1-45G 1-	No But No

ABBREVIATIONS:
GENERAL:
*—1925 Specifications
;—Industrial Tractor.
FAK—Front Axle Knuckle.
Hor—Horizontal.
N-A—Non-Adjustable.
Opt—Optional
SA—Swinging Axle.
TDM—Thru Driving Members.
Uni—Universal.
Ver—Vertical.
ENGINE:
A-K—Atwater-Kent.

A-K—Atwater-Kent. Beav—Beaver

Ben-Bennett.

Ben—Bennett.
Brem—Bremmer.
BrL—Brown Lipe.
Cent—Centrifugal.
Chl—Chicago Mfg. Co.
Cir-Spl—Circulating Splash.
Cllm—Climax.
Colum—Columbia.
Don—Donaldson.
Dupl—Duplex.
Ecc—Eccentric.
Eise—Eisemann.
Elec—Electrical.

Elec-F.C.--Electrical. -Flywheel Clutch

Full—Fuller.

G—Gasoline
Gra—Gravity.
Her—Hercules.
Hol-Crk—Hollow Crank Shaft with
Pressure to all Crankshaft, Bearings.
Hor—Horizontal.
Hyd—Hydraulic.
HH—In Head.
K—Kerosene.
King—Kingston.
"L" H—"L" Head.
Lyco—Lycoming.
McC—McCord.
MFMO—Multi-Feed Mechanical
Oiler.

Midw—Midwest.
Mod—Modine.
O—Oil.
Opp—Opposed.
Parag—Paragon
Perf—Perfex.
Pick—Pickering.
Pier—Pierce.
Pist—Piston.
Pom—Pomona.
Pres—Pressure.
Rac—Racine.
Rains—Rainstrom.
RBos—Robert Bosch.
Scheb—Schebler.

Oiling Syst

Type of System

M.F.M.O.
M.F.M.O.
M.F.M.O.
M.F.M.O.
Hol.Crk.
Hol.Crk.
Cir.Spl.
Cir.Spl.
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Hol.Crk.

Cir.Spl. .

Hol. Crk.
Hol. Crk.
Hol. Crk.
Hol. Crk.
Hol. Crk.
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Hol. Crk.
Cir. Spl.
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M.F. M. O.
Cir. Spl.
Cir. S

SImp S-J— Sli— Split Stayr Stea-Stror Suct-TDI— "T" Th-S Tillor Unit-Vac—

ies

ral

Water Injected?

Yes Doc.
No Taco.
No Bec.
No Bec.
No Bec.
No W-8
No Pom.
No Strust
No Pom.
No Pom.
No Own.
Yes Own.

Tractor Specifications

	E	NGINE				CLUT	тсн		BELT	PUI	LLEY						TRANSI	MISSION								
Oiling System System	Type of Pump	Make of Radiator	Circulation By By	ity of m (Gals.)	Fluid	Make	Туре	Diameter (Ins.)	Face (Ins.)	Normal R.P.M.	Clutch Type	Make	Type	No. of Forward Speeds	Final Drive	Diameter and Face Traction Members (Ins.)	Drive from Gearset to Traction Members	Drive Taken Through	Drive Wheel Axle Type	Does Differential Lock?	Type: Drive Shaft Axle Bearings	Individual Brakes for Steering?	Individual Clutches for Steering?	Number of Non- Drive Wheels	Frame Type	MAKE AND MODEL
M. F.M.O Hol. Crk Hol. Crk Cir. Spl Cir. Spl Hol. Crk Hol. Crk	Gear Pist Pist Gear Gear Gear	Own Own Own Own Own Perf Perf Perf Perf	Pump Pump Pump Pump	10 O 13 O 23 O 38 O 6 W 10 W 12 W 11 W 11 W 12 W 14 W	Own	vn. S. vn. S. vn. S. vn. S. vn. S. vn. S. vn. E. vn. E. vn. M. N. vn. M. vn. v	i.P i.S i.S i.D.D i.D.D	16 18 ³ / ₄ 21 ³ / ₄ 25 12 ¹ / ₂ 13 13 ³ / ₄ 11 13 ³ / ₄ 14 ¹ / ₄ 13 ³ / ₄	7½ 8½ 10 10 6½ 8 7½ 7 7½ 9½	635 540 470 817 930 900 900 900	Spec Spec Spec None None M.D.D.	Own Own	S.G	3 3 2 2 3 3 3 3 3 3 3		62-16 57½-18 64-24 46-12 50-12 48-12 48-12 48-14 48-14	S.G S.G S.G S.G I.G S.G S.W.G S.G S.G SpG Chain	Hub Hub Rim	Live Rev Rev Rev Rev Rev Rev Rev Rev Rev Dead	Yes Yes Yes Yes No No No No No No	Ball Ball Ball Roller Roller Roller Roller Roller Roller Plain.	No Yes No	No No No No No No No No No No Yes Yes	2 2 2 2 2 2 0	P.S P.S P.S One P. One P. Roll Roll Roll Roll	Adv-Rumely Oil Pull. Adv-Rumely Oil Pull. Adv-Rumely Oil Pull. Adv-Rumely Oil Pull. Adlis-Chalmers 15- Allis-Chalmers 20- Allwork Chlwork Allwork Ilwork Allwork Ilwork Allwork Ilwork Bailor
Cir.Spl. Hol.Crk. Hol.Crk. Hol.Crk. Hol.Crk. Hol.Crk. Hol.Crk. Hol.Crk. Cir.Spl. M.F.M.O. M.F.M.O. Hol.Crk. M.F.M.O. M.F.M.O. M.F.M.O. M.F.M.O. M.F.M.O. M.F.M.O. Cir.Spl. Cir.Spl.	Ecc	Perf. Spec. Perf. Perf. Perf. Perf. Perf. SJ G&O. Own	Pump Pump Pump Pump Pump Pump Pump Pump	10 W 66 W 10 W 10 W 10 W 10 W 11 W 10 W 11 W 1	V OV	wn. M. M. S.	Cone None S.P S.P E.S M. D.D S.P. M. D.D S.P.	8 0 12 12 12 12 12 14 16 16 16 12 13 12 8 20 24 24 12 6 14 14 14 14 14 16 16 16 16 16 16 16 16 16 16	6 0 832 832 832 832 832 832 636 632 832 10 10 10 6 6 6 832 10 10 6 6 832 832 832 832 832 832 832 832 832 832	850 850 850 850 650 31050 1000 850 1000 856 1265 450 450 450 1000 1000 1000 1000 1000 1	None S.P. S.P. S.P. S.P. S.P. S.P. S.P.	Spec. Own	S.G. S.G. S.G. S.G. S.G. S.G. S.G. S.G.	3 2 2 2 3 3 2 1 V. 2 2 2 3 3 3 3 3 3 3 2 2 1 2 2 2 2 2 2 2	Track Track Wheel. Wheel. Wheel. Wheel. Track Track Track Track Track Track Wheel. Wheel Wheel Wheel Wheel Wheel	-12 48-10 56-10 56-10 84-12 64-10 25-31,4 52-12 42-12 52-14 56-16 10- -13 -12 -20 -15 48-8 48-12 52-12 52-12 52-12 52-12 52-12 52-12	Chain. Worm. S.G. S.G. S.G. S.G. S.G. S.G. S.G. S.	Axle	Rev Rev Live Live	No No No No Yes Yes Yes Yes Yes Yes Yes Yes Yes None None None None None None None None None	Plain Roller Plain Roller	Yes Yes Yes Yes Yes No No No No No Yes Yes Yes Yes Yes No No No No No No No No No No No No No	Yes Yes No No No No Yes Yes Yes Yes Yes No No No No No No No No Yes	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Roll Roll Roll Roll Roll Roll Cast. Roll One P One P Roll	Bailor. Barron. 1 *Bates (Steele Mule). Beeman. Bryan. Steele Mule). Beeman. Bryan. Steele Mule). Case. 12- Case. 18- Case. 25- Caterpillar. 2T Caterpillar. 5T Caterpillar. 5T Caterpillar. 10T Cletrac. Eagle. Eagle. Eagle. Eagle. H20-40Sp Eagle. Eagle. H20-40Sp E-B. 15-25 *Fageol 10- Fitch. Four Dri Fordson.
Hol. Crk. M.F. M. O. Hol. Crk. M.F. M. O. M. F. M. O. M	Gear Gear Pist. Gear Gear Gear Gear Gear Gear Gear Gear	Perf. Sed. J. Own. Own. Own. Own. Own. Own. Own. Own	Pump Pump Pump Pump Pump Pump Pump Th-S. Pump Pump Th-S. Th-S.	934 V V 734 V V 735 V	V O O O O O O O O O O O O O O O O O O O	wn I I wwn I I www I I I was I	E.S. Cone. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.	13 113/8 13 14 14 14 13 16 0 30 15 17/2 17/2 17/2 15/3 12 15/3 12 15/3 12 16 16 16 16 16 16 16 16 16 16 16 16 16	7 818 8 9 9 7 10 0 12 712 8 8	9000 8000 7506 8000 10000 0 0 8000 9000 6800 6000 9000 5500 8000 8000 7255 6255 7500 7257 7500 7257 7500 7257 7500 7257 7500 7257 7500 7257 7500 7257 7500 7257 7500 7257 7500 7500	E.S. Cone. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P	Nutt. Own. Own. Own. Own. Own. Own. Own. Own	S.G. S.G. S.G. S.G. S.G. S.G. S.G. S.G.	22 22 22 22 22 22 23 33 33 22 22 33 33 3	Wheel Drum Wheel W	60-12 54-54 46-10 52-13 60-10 58-16 69-20 48-12 54-12 54-12 50-12 55-16 62-20 85-30 66-12 54-16 60-18 85-30 66-12 54-16 60-18 85-30 66-12 89-12 54-6 60-18 85-7-10 60-16 60-18 85-7-10 60-16 60-18 85-7-10 60-16 60-18 85-7-10 60-16 60-18 85-7-10 85-	S G Chain S.G Spur Spur Spur Spur Chain Chain S.G	Rim Rim Rim Hub Hub Hub Rim Axle Rim Spokes Axle Spokes Spokes Spokes Rim Axle Axle Axle Axle Axle Axle Rim Axle Axle Rim Rim Rim Rim Rim Rim Rim Rim	Rev Rev Rev Rev Rev Rev Live Dead Rev Live Rev Rev Rev Rev Rev Rev Rev Dead Rev Dead Rev Dead Dead Dead Dead Dead	No	Plain. Plain. Plain. Plain. Plain. Plain. Plain. Plain. Roller Plain Roller Plain.	No No No No No No No No No No No No No N	No N	222222222222222222222222222222222222222	Roll.	Frick 15 Gray 22 Hart-Parr 12 Hart-Parr 16 Hart-Parr 16 Hart-Parr 12 Huber (Light For Huber 22 Huber 11 Imperial 16 John Deere 17 Lauson 16 Lauson 17 Lauson 17 Lauson 18 Lauson 19 Lauson 19 Lauson 19 Lauson 19 Lauson 19 McCormick-Deering 10 McCormick-Deering 15 McCormick-Deering 15 McCormick-Deering 15 McCormick-Deering 15 Minneapolis 17 Minneapolis 17 Minneapolis 17 Minneapolis 25 Minneapolis 17 Minneapolis 25 Minneapolis 15 Monarch 25 Nilson-Jr. 25 Ni

Simp—Simplex.
S-J—Shotwell Johnson.
Sii—Slide.
Split—Splitdorf.
Stayn—Staynew.
Stea—Stearns.
Strom—Stromberg.
Suct—Suction.
TDI—Twin Disc.
""" H—"T" Head.
Th-S—Thermo Siphon.
Tillot—Tillotson.
Unit—United.
Vac—Vacuum.

Var—Varies.
Ver—Vertical.
W—Water.
Wauk—Waukesha.
Weid—Weidley.
Wil—Wilcox.
Wis-wilsconsin,
Zen—Zenith.
TRANSMISSION, ETC.:
B&B—Borg & Beck.
B&R—Ball & Roller.
CB—Contracting Band,
Cov—Covert.
Detl—Detlaff,

ES—Expanding Shoe.
FD—Friction Drum.
Fric—Friction.
Full—Fuller.
IG—Internal Gear.
JC—Jaw Clutch.
Mag—Magneto.
M&E—Merchant & Evans.
MDD—Multiple Dry Disk.
MDO—Multiple Disk in Oil.
No F—No Frame.
Nutt—Nuttall.
One P—One Piece.

PS—Pressed Steel.
Rev—Revolving.
Roll—Rolled Steel.
\$&IG—Spur and Internal Gear.
\$G-BG—Spur Gear and Bevel Gear.
\$GG—Sliding Gear.
\$pG—Spur Gear.
\$pec—Special.
\$P—Single Plate.
\$&WG—Spur and Worm Gear.
TD—Twin Disc.
V—Varies.
W-B—Wilcox Bennett.

American Agricultural

					GE	NERAL														ENG	GINE					
														s.)		Casting			Guve	ernor	Ignit	ion		F	uel System	
MAKE AND MODEL	Price	Capacity: No. of 14" Plows	Plowing Speed (M. P. H.)	Wgt. Complete (Lbs	Wheel Base (Ins.)	Minimum Turning Diameter (Ft.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar-Belt Rating	Steering Type	Make	Rated Horsepower (N.A.C.C.)	Number Cylinders	Bore and Stroke (In	ine Type	No. of Cyls. per Cas	Valve Arrangement	Normal R.P.M. at Plowing Speed	Make	Type	Make of System	Impulse Starter Fitted?	Make and Size of Carbureter (Ins.)	Fuel Feed	Number and Capacity of Fuel Tanks (Gals.)	Water Injected?
win City 12-20 win City 20-35 Vallis OK Vetmore 12-25 Vizard 4-Pull 15-25	500 1300 2750 1185 1925	2 2 2-3 3-4 4-6 4-8 6-10 1 3 5 3 3 2-3	2 .25 2 .90 2 .90 3 .50 3 .50 3 .00	8000 2900 4000 4600 6500 7200 12600 1750 4700 8400 3660 2000 5400	100 72 72 78 86 86 102 102 76 84 97 84 72 46	20'0" 24'0" 24'0" 30'0" 30'0" 20'0" 12'6" 15'0" 20'0" 15'0" 12'	10½ 12 16 17 17 18 18 16 10 13 13 12½ 11	Hor. Hor. Hor. Hor. Hor. Hor. Uni. Uni.	$\begin{array}{c} 9{\text -}18 \\ 10{\text -}20 \\ 15{\text -}30 \\ 20{\text -}40 \\ 25{\text -}50 \\ 30{\text -}60 \\ 6{\text -}12 \\ 12{\text -}20 \\ 20{\text -}35 \\ 15{\text -}27 \\ 12{\text -}25 \\ 15{\text -}25 \end{array}$	F.A.K. F.A.K. F.A.K. Opt. Chain. Chain. F.A.K. F.A.K. F.A.K.	Her	36 .10 15 .63 23 .60 33 .80 39 .20 48 .90 56 .80 71 .10 15 .63 28 .90 48 .40 25 .60 32 .40	1 7½ 2 6½ 2 7 2 7½ 2 8½ 4 3½ 4 4¼ 4 4¼ 4 4¼	x9 x7 x8 x9 x10 x12 x4½ x6 x6¾ x5¾ x5¾ x5¾	Ver. Ver. Hor. Hor. Hor. Hor. Ver. Ver. Ver. Ver. Ver.	4 I I 2 I I 2 I I 2 I I 2 I I 4 I I 4 I I 4 I I 4 I I 4 I I 4 I I 2 I I 4 I I 1 I 1 I 1 I 1 I 1 I 1 I 1 I 1	H H H L"H H H H H H	1200 600 550 500 480 475 450 1000 1000 900 900 1050	Own UeRoi Own Own Own Own Own Own Own	Cent.	Eise Split Split Split Split Split Split Split Split Split Bosch Bosch Bosch Split	No Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	King-1 Own-2¼ Own-1½ Own-1½ Own-22 Own-2½ Own-2½ King-1 Holley-1¼ Scheb-1½ King-1¼ Scheb-1¼	Gra Pres Pres Pres Pres Gra Gra Gra Gra Gra Gra	1-11G. 1-12K. 1-14K. 1-18K. 1-18K. 1-30K. 1-30K. 1-10G. 2-1½G-23K. 2-1½G-40K. 1-20G. 2-2½G-12K. 1-24G.	Yes 0 Yes 0 Yes 0 Yes 0 Yes 0 Yes 0 No 0 No B No 0 No No N
Vizard 4-Pull 20-35 uba (Ball Tread) uba (Ball Tread)	2750	4	2.88 2.25 2.08	5750 10130		15'0"		Uni. Hor. Uni.		S.A S.A	Wis	28.90 44.10	4 41/4	x6	Ver. Ver. Ver.	4	"L"H "L"H IH	900	Own	Cent.	Bosch	Yes		Gra		No P
ABBREVIAT GENERAL: *—1925 Speci			!	!		Br	em-		tt. nmer. Lipe.						Gaso —Gr —He	avi	ity.						Midw—Mod—Mod		t.	

MENAL
**-1925 Specifications.
*‡-Industrial Tractor.
**FAK—Front Axle Knuckle.
**Hor—Horizontal.
**N-A—Non-Adjustable.
**Opt—Optional.
**SA—Swinging Axle.
**TDM—Thru Driving Members.
**Uni—Universal.
**Ver—Vertical.
**ENGINE:
**A-K—Atwater Kent.
**Beav—Beaver.

Ben—Bennett.
Brem—Bremmer.
BrL—Brown Lipe.
Cent—Centrifugal.
Chi—Chicago Mfg. Co.
Cir-Spl—Circulating Splash.
Clim—Climax.
Colum—Columbia.
Don—Donaldson.
Dupl—Duplex.
Ecc—Eccentric.
Eise—Eisemann.
Elec—Electrical.
F.C.—Flywheel Clutch
Full—Fuller.

G—Gasoline
Gra—Gravity.
Her—Hercules.
Hol-Crk—Hollow Crank Shaft with
Pressure to all Crankshaft Bearings.
Hor—Horizontal.
Hyd—Hydraulic.
IH—In Head.
K—Kerosene.
King—Kingston.
"L"H—"L" Head.
Lyco—Lycoming.
McC—McCord.
MFMO—Multi-Feed Mechanical
Oiler.

Midw—Midwest,
Mod—Modine
O—Oil.
Opp—Opposed.
Parag—Paragon.
Perf—Perfex.
Pick—Pickering.
Pier—Pierce.
Pist—Piston.
Pom—Pomona.
Pres—Pressure.
Rac—Racine.
Rains—Rainstrom.
RBos—Robert Bosch.
Scheb—Schebler.

American Garden

				G	ENE	RAL										E	NGINE					
				3		ating				Rating								Gove	ernor	Ignition		Fuel
MAKE AND MODEL	Price	Operator's Position	Type of Steering	Size Plow Recommended (Ins.)	Number Plows Recommended	Plowing or Cultiva Speed (M.P.H.)	Weight (Lbs.)	Ground Clearance (Ins.)	Drawbar Type	Drawbar-Belt Ra	Make	H. P. Rating (N.A.C.C.)	Normal R.P.M. at Plowing Speed	Number Cylinders	Bore and Stroke (Ins.)	Engine Type	Valve Arrangement	Make	Type	Make	Carbureter Make and Size (Ins.)	Fuel
AroF	\$450	Rid	Wheel	12"	1	2-3	1000	10	Non-A	4-8	Own	8.10	900	1	43/4x5	Ver	"L"H	Own	Cent	A Bosch	Scheb-1	Gas.
Beeman Junior Beeman K Bolens D	195 265 200	Wal Wal Wal	H-Bars H-Bars H-Bars	None 7" 4"	0 1 1	3/4-3 3/4-3 3/4-21/2	220 550 235	73/4	Uni Uni Non-A	11/2-4	B&S Own Gil	2.50 4.90 1.4		1	$2\frac{1}{2}x2\frac{1}{2}$ $3\frac{1}{2}x4\frac{1}{2}$ $2\frac{1}{2}x2\frac{1}{2}$	Ver	"L"H	None .	None.	Heinze	B&S-½ King-¾ Zenith	. Gas.
Centaur1925 Centaur	345 548	Rid Rid	Wheel Wheel	10" 10"-12"	1	1-3 -3	1200 1500	13 13	Uni Non-A		LeRoi LeRoi	8.10 8.12		2 2	3½x4½			LeRoi LeRoi.	Cent Cent		Zenith Zenith	Gas.
Federal	195	Wal	H-Bars	7"	1	3/4-23/4	250	91/2	Uni	11/2	B&S	1.50	2200	1	2½x2½	Ver	"L"H	None.	None.	Own	Own	. K
Kinkade	190	Wal	H-Bars	5"	1	11/2-21/2	180	9	Uni	11/2-3	Own	3.80	1000	1	3 x3	Ver	IH	None.	None.	Berl	Scheb-1	GM.
Red E (Lawn Mower) A Red E	190 275	Wal	H-Bars H-Bars	None	0	1-4 1-4	185 465	7	Non A Uni	1-41/2	B&S Own	$\frac{1}{2}$ $\frac{4}{3}$	1750 900		21/4×21/4 33/4×4	Ver Ver	IH	None . None .	None . None .	B&S R Bosch.	B&S Hol7/8	
ShawT-25 SprywheelDC Standard	150	Wal	H-Bars H-Bars H-Bars	7" 4" 5"	1 1 1	$34-2\frac{1}{2}$ $1\frac{1}{2}-3$ $1\frac{1}{2}-2\frac{1}{2}$	250 175 225	10½ 11 16	Hor Ver Uni	1-2 1½-3	B&S Own Own	2 1½ 3.80	1200 900 1000	1 1 1	2½x2½ 2½x2½ 3 x3	Ver Ver Ve r	"L"H "L"H IH	None None. None.	None None. None.	B&S Own King	Own Own-½ Zenith-½	Gal.
Utilitor502	295	Rid	H-Bars	10"	1	21/2	750	8	Uni	21/4-4	Own	4.90	800	1	3½x4½	Ver	"L"H	Funk .	Cent	Berl	Hol7/8	
Utilitor502A	345	Rid	H-Bars	10"	1	21/2	925	8	Uni	21/4-4	Own	4.90	800	1	3½x4½	Ver	"L"H	Funk .	Cent		Hol%	. Gas.

ABBREVIATIONS:

+—1925 Specifications
B. & S.—Briggs and Stratton.
Ben—Bennett.
Berl—Berling.

Cent—Centrifugal.
Ch. G—Chain and Gear.
Cir. Spl.—Circulating Splash.
Don—Donaldson.
Eise—Eisemann.

Ecc—Eccentric.
E. B.—Expanding Band.
Fric—Friction.
Gas—Gasoline.
G-K—Gasoline or Kerosene.

Gil—Gilson.
G. & W.—Gear and Worm.
H. B. F.—Handle Bars or Foot.
H. Bars—Handle Bars.
H. B. Grip—Handle Bar.

H. Lever—Hand Lever. Hol—Holley Hor—Horizontal. IG—Internal Gear. IH—"I" Head Tr

Oiling Syst

Aut

Cir.Spl. Cir.Spl. M.F.M.O. M.F.M.O. M.F.M.O. M.F.M.O. M.F.M.O. Hol.Crk. Hol.Crk. Cir.Spl. Hol.Crk. Hol.Crk.

Hol.Crk. G
Hol.Crk. G
Cir.Spl. P
Hol.Crk. G
Hol.Crk. G
Hol.Crk. G
Hol.Crk. G
Sin

Sim S-J Sli-Spl Sta Ste Stro Suc TDi Th-Till Uni Vac Var

T

| System | System | System | System | System | | System | | System | | System | Sy

J. C.—Jav K—Kerose King—Ki "L" H—I

1-11/2G. Ov

ral

Water Injected?

No Bea. No Owa. Yes Opt. Yes Opt. Yes Opt. Yes Opt. Yes Opt. No Owa. No Bea. No Owo No Pom

No Pon

en

3-1/2 g-3/4 ith...

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nd Lever.

Tractor Specifications

	ENGINE				CL	UTCH		BELT	PUI	LLEY						TRANS	MISSION								
Oiling System	Ce	ooling S	ystem										eds						ock?						
Type of System Type of Pump	Make of Radiator	Circulation By	Capacity of System (Gals.)	Fluid	Make	Туре	Diameter (Ins.)	Face (Ins.)	Normal R.P.M.	Clutch Type	Make	Type	No. of Forward Speed	Final Drive	Diameter and Face Traction Members (Ins.)	Drive from Gearset to Traction Member	Drive Taken Through	Drive Wheel Axle Type	Does Differential L	Type: Drive Shaft Axle Bearings	Individual Brakes	Individual Clutches for Steering?	Number of Non- Drive Wheels	Frame Type	MAKE AND MODEL
ir.Spl. Gear. Ir.Spl. Pist. IF.M.O. Pist. IF	S-J Own Own Own Own Own Own Own Own Mod Mod Mod	Th-S Pump Pump Pump Pump Pump Pump Pump Pump	3 40 50 75 75 100 100 4 10½ 18 634 7½ 12 14	W	BrL Own	C.B. Spec. M.D.D. M.D.D. M.D.D. M.D.O.	22 8 16 21 18½ 12 12	7 8 8 10 10 6 6 ¹ / ₂ 8 ¹ / ₂ 7 6 8	1200 575 550 500 480 475 450 1000 650 466 475 750	None . Spec . None . None . T.D None . T.D T.D Spec . Sp	Own		2 V V V V V V V V V V V V V V V V V V V	Wheel.	$\begin{array}{c} 41-9 \\ 45-10 \\ 48-12 \\ 56-18 \\ 56-18 \\ 56-18 \\ 60-24 \\ 38-10 \\ 50-12 \\ 60-20 \\ 48-12 \\ 46-10 \\ 32-8 \\ 41-12 \\ 33-8 \\ 41-14 \\ -12 \end{array}$	S.G S.G S.G I.G S.G S.G S.G S.G S.G S.G S.G S.G	Spokes Rim Rim Rim Rim Rim Rim Rim Rim Rim Axle	Live Live Live Dead Live Live Dead	No.	Roller Plain Plain Plain Plain Plain Plain Roller Roller Roller Roller	Yes No No No No No No No No No No No No No	No No No No No No No No No No Yes Yes	2 2 2 2 2 2 2 2 0 0 1	Roll One P. Cast Roll	Topp-Stewart 30-Toro 6-Townsend 9-Townsend 10-Townsend 15-Townsend 20-Townsend 30-Traylor 6-Twin City 12-Twin City 20-Wallis 0-Wetmore 12-Wizard 4-Pull 15-Wizard 4-Pull 20-Yuba (Ball Trea Yuba (Ball Trea Yuba) (

Simp—Simplex.
S-J—Shotwell Johnson.
Sil—Slide.
Split—Splitdorf.
Stayn—Staynew.
Stea—Stearns.
Strom—Stromberg
Suct—Suction.
TDi—Twin Disc.
Th-S—Thermo Siphon
Tillot—Tillotson
Unit—United.
Vac—Vacuum
Var—Varies.

Ver---Vertical W---Water. Wauk---Waukesha Weid---Wicldey Wil----Wilcox Wis----Wisconsin Zen---Zenith

TRANSMISSION, ETC.:
B&B—Borg & Beck.
B&R—Ball & Roller.
CB—Contracting Band.
Cov—Covert
Detl—Detlaff.

ES—Expanding Shoe.
FD—Friction Drum.
Fric—Friction
Full—Fuller.
IG—Internal Gear.
JC—Jaw Clutch.
Mag—Magneto
M&E—Merchant & Evans.
MDD—Multiple Dry Disk.
MDO—Multiple Disk in Oil.
No F—No Frame.
Nutt—Nuttall.
One P—One Piece.

PS—Pressed Steel.
Rev—Revolving.
Roll—Rolled Steel.
S&IG—Spur and Internal Gear.
SG—BG—Spur Gear and Bevel Gear.
SG—Stiding Gear.
SpG—Spur Gear.
Spec—Special
SP—Single Plate.
S&WG—Spur and Worm Gear.
T-D—Twin Disc.
V—Varies.
W-B—Wilcox Bennett

Tractor Specifications

					ION	SMISS	TRAN			LLEY	T PUI	BEL	1	CLUTCH					NE	ENGI			
		seels		ns.	2			ds									ystem	Cooling S		System	Oiling	n	System
MAKE AND MODEL	Frame Type	No. Non-Drive Whe	Type Drive Wheel Axle Bearings	Diameter and Face Driving Wheels (Ins.	No. Driving Wheels	Final Drive	Drive from Engine or Gearset to Driving Wheels	No. Forward Speeds	Туре	Diameter and Face (Ins.)	R.P.M.	Make of Clutch	Control	Type	Make	Capacity of System (Gals.)	Circulation By	Make of Radiator	Cooled By	Type of Pump	Type of System	Make of Air Cleaner	Number and Capacity of Fuel Tanks (Gals.)
AroF	None	0	Roller	30-4	2	Axle	Worm	1		6-41/2	900	Own	H-Lever	M.D.D.		1 1	Ther-S.			Gear	1		
Beeman Jun Beeman Bolens	None	2	Plain.	30-3 25-3 ¹ / ₄ 16-3	2	Rim.	Gear Sp.G Chain	1	Direct Direct Fric	31/2-41/2	800 125	None .	H-Lever H.B.Grip H-Lever	Plate	Own	0	Fan Ther-S	None Sh-John .	Air Water.	Piston	Cir-Spl	Don	4G
Centaur19			Roller Plain	28-4 28-4	2 2	Axle Axle	Chain Chain	1	S.G Fric	4-6 6-4	1200 1200	None.	H-Lever H-Lever				Ther-S	LeRoi	Water.	LeRoi Piston	Force	Own.	4G
Federal	Cast	0	Plain	20-3	2	Axle	Sp-IG	1	J.C	None	0	None .	H-Lever	Jaw	Own	0	Fan	None	Air	Piston	Cir-Spl.	Own	-1½K
Kinkade	Pressed	2	Plain	22-51/4	1	Spokes	IG	1	J.C	3-3	1000	None .	H.B.Grip	Jaw	Own	0	Fan	None	Air	Ecc	Cir-Spl	Own.	-1G
Red EMB			Ball Plain	11-2½ 20-3			Chain Worm		Fric J.C	2-2 3-3½	1750	None . Own	H.B.Grip H-Lever	M.D.D Jaw	Own	0	Fan Fan	None	Air	None	Cir-Spl Spec	B&S Own	⅓G 2G
Shaw	Rolled	2	Plain.	$26-22 \ 20-3\frac{1}{2} \ 32-3$	1	IG	SpG Ch-G Sp.G	1	J.C	5½-2 None 3-3	0	None None . None .	H-Lever	Jaw	Own	0		None	Air	Piston Piston	M.O.F	UWn.	"11.E
Utilitor5		2	Plain	2434-4	2		IG	1	Direct	45/8-33/4	1200	None.	H.B.Grip.	Cone	Own	11/2	Ther-S						
Utiliter50		2	Plain	243/4-4	2		IG	1	Direct	45/8-33/4	1200	None .	H-Lever H-Lever	Cone	Own	11/2	Ther-S.	Fedders			Cir-Spl.		

L.C.—Jaw Clutch.
K—Kerosene.
King—Kingston.
"L" H—L Head
H. D. D.—Multiple Dry Disk.

M. O. F.—Mix Oil with Fuel. N-W.—New-Way. Non-A—Non-Adjustable. Plan—Planetary. Rid—Riding. S. G.—Sliding Gear. Sh.-John—Shotwell-Johnson. Spec.—Special. Sp. G.—Spur Gear. Scheb—Schebler Sp. I. G.—Spur and Internal Gear.
T. Disc—Twin Disc.
Ther-S—Thermo Syphon.
Uni—Universal.
Ver—Vertical

W. H. B.—Wheels or Handle Bars.
Wal—Walking.
Wels—Weisman.
Wisc—Wisconsin.

Aut

CONNEC

Material Center to Center

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ASt. 11.
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American Stock

ABBREVIATIONS:
Accx—Accessories Drive
Al—Aluminum Alloy.
ASt—Alloy Steel.
B—Buses.
Ball—Ball Bearing
Bro—Bronze,
C—Cars,

Car—Carbon Steel,
Cam—Camshaft,
C—Passenger Cars,
Cent—Centrifugal,
Ch N—Chrome Nickel Steel,
Chr—Chromium Steel,
CI—Cast Iron,

Det—Detachable.
Dur—Duraluminum.
E—Exhaust.
Ecc—Eccentric.
FI Pr—Full Pressure to all bearings including wrist pins.
Flo—Floating.

Heli—Helical.

I—Both valves in head.

I—Inlet.

H—Valves horizontal in head.

Int—Integral.

L—Valves at side.

Mag—Magnesium.

Pin Bearing In Number of Rings p

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Rod...
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Pist...
Pist...
Pist...
Pist...
Pist...
Pist...
Pist...
Rod...

Rod... Rod... Rod... Rod... Rod... Pist... Pist... Pist... Pist... Pist... Pist... Pist... Pist... Rod... R

Fol...

Engine Specifications

K	NEC	DS				CI	RANKSHA	PI		S	ILING	CIRCU	ATER ILATION	G	OVERN	OR		MISC	CELLA	NEO	US			
1							Crank Pin		Main Bearings							-	÷.	Carbu- Lbs.			verall	Di-		MARE
- 1	enter to Center	=	Weight (with Bushings and Cap) Ozs.	Material	Offset (Ins.)	Counter Balances Used?	Diameter and Length (Ins.)	Number	Diameter and Length (Ins.)	Type of System	-	Type	Pump Type	Furnished?	Туре	Maximum Governed Speed (R.P.M.)	Speed at which Maximum Torque is Developed (R.P.M.)	Weight (without Careter or Ignition) L	Adapted for Use of Kerosene?	Width	Height	Length	Bell Housing Provided? S.A.E. Numbers	MAKE AND MODEL
	8	50 19 00 00 00 00 00 00 00 00 00 0	144.0 (1240.0	Car. Car. Car. Car. Car. Car. Car. Car.	None None None None Solo Solo Solo None	NO	2 .25x1 .50 2 .25x2 .75 2 .25x2 .75 3 .00x3 .50 3 .50x4 .25 2 .25x2 .75 2 .25x2 .75 2 .25x2 .75 2 .25x2 .75 3 .00x3 .75 3 .00x3 .75 3 .50x3 .75 3 .50x3 .75 3 .50x3 .75 3 .50x3 .75 2 .25x2 .25 2 .25x3 .00 2 .25x3 .25 2 .25x2 .25 2 .25x	335555354433333333333333333333333333333	1. 75x2 .50 2. 37x3 2. 25x4 .75 2. 25x5 .7	37 FIPr. 37 FIPr. 00 Splas 00 Splas 00 Splas 12 Splas 550 PrCs 550 PrCs 550 PrCs 550 PrCs 550 PrCs 550 PrCs 255 PrCs 255 PrCs 257 PrCs 257 PrCs 258 PrCs 258 PrCs 259 PrCs 259 PrCs 250 PrCs 270	Gear Gear Gear Gear Gear Gear Gear Gear	Pump Pump Pump Pump Pump Pump Pump Pump	Cent.	NP. NP. Stk. Stk. Stk. Stk. Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt	None. None. Cent. Cent. Cent. None. Cent.	None None None None None None None None 1450 1600 11500 1000 1000 1000 1200 1200 1200 1	1000 800 400 400 400 400 400 400 400 800 8	600 675 1650 2700 4700 1475 1020 1000 2000 2000 2300 2300 2300 2300	No No No Yes Yes Yes No No.	2834 2854 266 332 2334 2231 2231 2231 2231 229 29 29 29 29 29 29 29 25 25 25 25 33 25 25 25 33 25 25 25 25 25 25 25 25 25 25 25 25 25	317362 317362	4176344434444443334446444444434444444444	3*3*None None None None None 1, 2 2, 3 1 1 1 1 1 0pt 0pt 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Ansted. Ansted. Ansted. Antematic. Automatic. Automatic. Automatic. Beaver. Be

NicS—Nickel Steel.
NP—No provision.
Opt—Optional.
Plst—Piston.
PrCs—Pressure to all crankshaft and connecting rod bearings, splash to other parts. PS—Pressed Steel.
Rail C—Rail Cars.
Sep—Separate.
Sil—Silcrome Steel.
Sl—Sleeve.
Spec—Special.
SS—Semi Steel. SpPr—Pressure to main crankshaft bearings only; splash to connecting rods and other parts.
St—Sted.
Stk—Standard Equipment.
T—Trucks.
Th—Valves opposite.

ThS—Thermo-siphon.
Tr—Tractors.
Tum—Tungsten.
*Optional.
†—Inlet valve only.
†—Pressure to all main crankshaft and camshaft bearings.

Autom

CONNECTIN

Material Center to Center Length (Ins.)

Car... 13.25 Car... 12.25 Car... 12.25

Car... 10.00 Car... 8.73 Car... 12.23 Car... 13.23

Car... 13.2 Car... 18.0 Car... 18.0 Car... 12.2

Car. 3.2
ASt. 10.5
Car. 12.0
Car. 12.0
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Car. 12.5
Car. 12.5
Car. 14.0
ASt. 12.0
Car. 10.5
Car. 10.5
Car. 10.5
Car. 10.7
Car. 10.7
Car. 10.7

American Stock Engine Spec

					ns.)		non	CYI	IND	ERS	CR	ANKC	ASE		VAI	LVES			ONT DRIVE			PISTO	ONS		
MAKE AND		ders, Bore	(N.A.C.C.)	шпи	ent (Cu. Ins.)	.o	Suspension		Piece		Uppe	r Half	Half)			(Ins.)			1			s, Ozs.	Piston	Pins	1
MODEL	Designed For	Number of Cylinders, and Stroke (Ins.)	Rated H.P. (N.A.	R.P.M. at Maximum Brake H.P.	Piston Displacement	Compression Ratio	Number of Point	Head	No. Cast in One	Detachable Liners Used?	Integral with Cylinders?	Material	Material (Lower	Arrangement	Head Material	Clear Diameter (Lift (Ins.)	Туре	Non-Metallic Gear Used On?	Material	Length (Ins.)	Weight (with Pins, Rings & Bushings)	Diameter and Length (Ins.)	Bear	Number of Rings
Light H Lycoming CH Lycoming CH Lycoming CF Lycoming CF Lycoming CT Lycoming CT Lycoming CS Ly	G. T. Tr. G. T. Tr. G. T. Tr. G. T. Tr. Trucks. Cars. Buses & T. B. C. Tr. B. C. Tr. B. C. Tr. B. T. Tr. C. T. B. Tr. T. Tractors. Tra	4-31/2x5 4-3/2x5 4-3/2x5 4-3/2x5 4-4/2x5 6-3/2x44/2 8-3/2x44/2 8-3/2x44/2 8-3/2x44/2 8-3/2x44/2 8-3/2x5 4-4/2x6 6-3/2x5 4-4/2x6 4-4/2x6 4-4/2x6 4-5/2x6/2	12.10 18.81 18.81 18.90 29.40 14.00 14.00 13.00	22-600 78-2400 65-2400 81-2400 65-2400 81-2400 81-2400 45-1090 60-1000 100-1690 65-1690 100-1090 170-1690 90-1090 120-155-1590 120-1500 120-1500 120-1500 120-1500 120-1500 120-1500 120-1500 120-1500 150-1700 23-2000 47-2000 47-2000 46-350 140-650 24-2000 53-2000 83-2200 50-2200 341-2650 37-1400 50-1400 60-1400	149.3 346 567.0 490.0 434.0 251.0 173.0 289.0 397.6 490.8 831.0 982.0 549.0 425.3 251.3 301.6 340.4	4.1 4.1 4.0 4.6 4.6 4.6 4.6 4.5 5.3 5.0 4.7 4.3 4.3 4.3 4.7 4.7 4.7 4.7 4.7 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	33333333333333333333333333333333333333	Det. Det. Det. Det. Det. Det. Det. Det.	4 4 4 4 2 2 2 6 6 4 6	No No No Yes. No	Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep.	Iron.	PS. PS. PS. PS. PS. Al. Iron. Iron. Iron. CI. CI. CI. CI. CI. CI. CI. CI. CI. CI		CI	1.62 1.44 1.44 1.44 1.44 1.44 1.45 1.18 1.200 2.25 2.25 2.25 2.25 2.25 2.25 2.27 2.37 2.37 2.37 2.37 2.37 2.37 2.37	.34 .33 .27 .31	Heli Heli Opt Spur Sp	Idler, None., No	Al* Al* CI.	7.75 10.00 10.25 10.75 10.75 6.19 6.19 5.56 6.47 5.00 4.34 3.69 6.25 7.50 5.34 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94 6.12 4.94	26.0 0 44.0 25.0 0 25.0	.75x3.00 1.12x2.90 1.12x3.36 1.12x3.35 1.12x3.35 87x2.78 87x2.78 87x2.78 87x2.78 87x2.78 87x2.78 87x2.78 87x2.78 87x2.78 1.50x4.00 1.52x3.75 1.50x4.00 1.62x4.62 1.62x4.62 1.62x4.62 1.62x4.62 1.62x5.00 1.52x5.00	Rod Rod Rod Rod Rod Rod Rod Rod Rod Fist Flo Flo Flo Flo	***************************************

ABBREVIATIONS:
Accx—Accessories Drive,
Al—Aluminum Alloy.
ASt—Alloy Steel.
B—Buses.
Ball—Ball Bearing
Bro—Bronze.
C—Cars.

Car—Carbon Steel.
Cam—Camshaft.
C—Passenger Cars.
Cent—Centrifugal.
Ch N—Chrome Nickel Steel.
Chr—Chromium Steel.
CI—Cast Iron.

Det—Detachable,
Dur—Duraluminum.
E—Exhaust.
Ecc—Eccentric.
FI Pr—Full Pressure to all bearings including wrist pins.
Flo—Floating.

Heli—Helical.
I—Both valves in head.
I—Inlet.
H—Valves horizontal in head.
Int—Integral.
L—Valves at side.
Mag—Magnesium.

tries 26

Pin Bearing In

ist...

od...

gine Specifications—Continued

CONNECT	ring S			CI	RANKSHA	FT			OILII SYST		CIRCULA		GO	VERNO	OR		MISC	ELLAN	NEOU	IS			
T	1				Crank Pin		Main Bear	ings							per	Maxi- De-	Carbu- Lbs.			erall i			MAKE
Center to Center Leneth (Ing.)	1 0	ings and Cap) Uzs	Offset (Ins.)	Counter Balances Used?	Diameter and Length (Ins.)	Number	Diamete Length		Type of System	Pump Type	Туре	Pump Type	Furnished?	Type	P.M.)	Speed at which M mum Torque is D veloped (R.P.M.)	Weight (without (Adapted for Use of Kerosene?	Width	Height	Length	Provided? S.A.E. Numbers	AND MODEL
ur. 12	00 50 50 50 50 50 50 50	0 Car 1 0 Car 0 Car 1 0 Car 2 0 Car 1 0 Car 1 0 Car 2 0 Car 1 0 Car 2 0 Car 1 0 Car 2 0 Car 3 0 Car 3 0 Car 4 0 Car 4 0 Car	None.	NO	2.12x1.81 2.12x1.81 2.12x1.81 2.12x1.81 2.12x1.81 2.12x1.50 2.12x1.50 2.12x1.50 2.12x1.50 2.12x1.50 2.12x1.50 2.12x1.50 2.13x1.50 2.13x1.50 2.13x1.50 2.25x1.87 2.25x1	5555445555542222333333344444333323355573	1.87x2.37 2.12x2.62 2.12x2.62 2.12x2.62 2.12x2.62 2.12x2.62 2.12x2.68 2.37x2.09 2.37x2.68 2.37x2.68 2.37x2.68 2.37x2.68 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.37x2.69 2.25x2.50 2.5x2.5	2, 12x2, 62 2, 12x2, 62 2, 12x2, 62 2, 12x2, 62 2, 12x2, 62 2, 37x2, 31 2, 37x2, 31 2, 37x2, 32 2, 37x2, 68 2, 37x2, 68 2, 37x2, 69 2, 37x4, 48 2, 2, 57x4, 48 2, 3, 57x4, 48 3, 50x6, 68 3, 50x6, 68 3, 50x6, 68 3, 50x6, 68 3, 50x6, 68 2, 00x5, 50x6, 68 3, 50x6, 68 2, 00x5, 50x6, 68 3, 50x6, 68 2, 00x5, 50x6, 6	PrCs.	Pist. Gear.	Pump.	None None Cent	NP	Cent. None Cent. Cent	2000 None 1200 None 1200 1200 1200 1500 1500 1500 1500 1500	350 350 1000 800	495 505 505 505 505 505 505 505 505 505 700 700	No No No	3034 3036 2534 2534 2534 2534 2534 2534 21 23 23 23 23 23 23 23 23 23 23 23 23 23	3034 20336 2636 2676 2676 2676 2656 2656 2656 2656 265	415/6/6/4 415/6/6/4 415/6/6/6/6 4415/6/6/6 4415/6/6/6 4415/6/6 4415/6 4	3, 4, 5 4, 5 5 5 4 4 4, 5 5 3 3, 3, 2 2, 1, 2, 2 1, 2, 2 1, 2, 1 1, 1 1, 2 1, 2	Light Lycoming
ar 12.	25 11	8.0 Al 6.0 ASt. 6.0 ASt.		No No	. 2.37x2.5	0 4	2.37x3.25 3.00x2.62 3.00x2.62	2.62x3.00	PrCs	Gear. Gear. Gear.	. Pump	Vane. Cent. Cent.	Opt	Cent.	1400 1050 1600	600 900	1050	Yes No	. 253	40½ 41 41	62 69½ 69½	1 2 2 2	Waukesha Waukesha Waukesha
ar 13. ar 13. ar 13. ar 18. ar 18.	.75 3 .25 11 .25 12 .25 14 .00 23 .00 23	6.0 Car. 6.5 Car. 6.5 ASt. 2.0 ASt. 0.0 ASt. 2.5 ASt. 2.5 ASt.	25	No No	2.37x3.2 3.25x2.7 3.25x2.7	0 3 0 3 5 3 5 5 5 5	2.25x2.00 2.00x1.87 2.37x2.50 2.37x2.75 2.37x3.25 3.75x3.75 3.75x3.75 3.00x2.62	2.50x3.50 2.50x3.50 2.50x4.00 3.75x5.50 3.75x3.50	PrCs PrCs‡ PrCs‡ PrCs‡ PrCs‡ PrCs‡	Gear. Gear. Gear. Gear. Gear. Gear.	Pump	Cent. Cent. Cent. Cent. Cent. Cent.	Stk	Cent.	. 1400 1800 1400 1600 1200 1400 1200 1000 1800	1050 850 800 750 800 650 500	375 825 910 1000 1000 1050 1900 1980	Yes Yes Yes	. 177 . 30½ . 30½ . 30½ . 30½ . 30½	2 38 ³ / ₄ 2 40 ¹ / ₅ 6 51 ³ / ₄ 8 51 ³ / ₆	58 62 591 591	1, 2	Waukeshs. Waukeshs. Waukeshs. Waukeshs. Waukeshs. Waukeshs. Waukeshs.
Car. 3. ASt. 10. Car. 12. Car. 14. ASt. 12. Car. 10. Car. 13. Car. 10. Car. 10. Car. 10.	.25 14 .50 5 .00 9 .00 9 .50 12 .50 12 .50 14 .00 5 .50 . .37 9 .75 64 .05 54	0.0 ASt 6.0 ASt 9.0 ASt 9.0 ASt 9.0 ASt 11.0 ASt 11.0 ASt 4.0 ASt 9.0 ASt	None None None None None None None None 31 None 25	. Opt No Yes.	. 2.37x2.6 2.00x2.0 2.00x3.0 2.00x3.0 2.25x3.0 2.25x3.0 2.25x3.5 2.50x1.5 2.75x2.5 2.37x2.3 2.50x2.3 2.25x3.0 2.25x3.0	9 3 0 4 0 4 0 3 0 3 0 4 7 7 7 7 0 4 7 3	2.50x2.87 1.94x2.50 2.00x2.50 2.00x2.50 2.25x3.00 2.25x3.00 2.25x3.00 2.25x3.03 2.62x3.87 2.50x2.34 2.75x3.00 2.75x2.37 2.25x2.65 2.75x2.37 2.25x2.65	2.50x2.62 2.06x3.00 2.00x3.50 2.00x3.50 2.00x3.50 2.37x4.00 2.37x4.00 2.62x5.72 2.75x3.00 3.00x3.92 2.75x3.22 2.44x3.23	9 FlPr 0 PrCs 1 PrCs 1 PrCs 1 PrCs	Gear. Gear. Gear. Gear. Gear. Gear. Gear. Gear. Gear. Gear. Gear.	Pump. ThS. Pump. ThS.	Cent.	Stk. Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt	Cent. None. None. None. None. None. None. None. None. Cent. Cent. Cent.	Opt None.	1000 1000 1000 900 900 900 1200 1200	1250 635 700 715 725 890	Yes No No No No No No No No No No No No No	. 253 . 22 . 21½ . 21½ . 21½ . 23%	40 ¹ / ₃ 4 ¹ / ₂ 34 ³ / ₂ 34 ³ / ₂ 34 ³ / ₂ 36 ¹ / ₂	481 357 461 461 461 483 483	2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	W-S-Morgan C4, A4, A4R Wisconsin. Wisconsin. Wisconsin. Wisconsin. Wisconsin. Wisconsin. Wisconsin. Wisconsin. Wisconsin. Yellow-Sleeve. Yellow-Sleeve. Yellow Sleeve. Yellow Sleeve. Yellow Sleeve.

NicS—Nickel Steel.
NP.—No provision.
Opt—Optional.
Pist—Piston.
PrCs—Pressure to all crankshaft and connecting rod bearings, splash to other parts.

PS—Pressed Steel.
Rail C—Rail Cars.
Sep—Separate.
Sil—Silcrome Steel.
Sl—Sleeve.
Spec—Special.
SS—Semi Steel.

SpPr—Pressure to main crankshaft bearings only; splash to connecting rods and other parts.
 St—Steel.
 Stk—Standard Equipment.
 T—Trucks.
 Th—Valves opposite.

ThS—Thermo-siphon.
Tr—Tractors.
Tun—Tungsten.
*—Optional.
t—Inlet valve only.
t—Pressure to all main crankshaft and camshaft bearings.

Autor

Designed for Hetchkiss Drive?

Yes... B A
Yes... A A

Yes... A A Opt

Yes... Opt

Yes. Opt Yes. A A Yes. Opt Yes. A A A Yes. A Cop Opt Yes. Opt Yes. Opt Yes. Opt Yes. A A Yes. A Yes. A Yes. A A Yes.

Yes., Opt. Yes.

American Stock Rear

						GI		MATER			G	EAR R	ATIO		NOM PITC GEA	H OF		ACE OF EARS		AXLE		SPR	GE OF LING TERS			
MAKE		Spring	Shaft				t Re-		nal action		First Reduct			nal ection						_	6			by		a Reds?
AND MODEL	Designed for	Maximum Lead on Pads (Lbs.)	Maximum Drive S Torque (Lb. Ft.)	Type	Final Drive	Pinien	Gear	Pinion	Gear	Standard	Optional	Optional	Standard	Optional	First Reduction	Final Reduction	First Reduction	Final Reduction	Diameter at Dif- ferential End (Ins.	Diameter at Wheel	Material S.A.E. No.	Maximum	Minimum	Propulsion Taken	Torque Taken By	Prevision for Radiu
Adams 75100 Adams 5100 Atlas 5002 Atlas LLC8 Clark B-365 Clark B-720 Clark B-720 Bus	Cars T & Bu T & Bu	8000 12000 3600 7200 7200	Var Var 550 1000 1000	1/2 F. 1/2 F. F F. 1/2 F. 1/2 F. 1/2 F.	S B S B I G I G S B S B S B	2315 2315 2315 2315 2315	2315 2320 2320 2315	2315 2315 None None	None None 2315 2315 None None None	4.77 4.87 1.55 1.55 5.1 7.00 7.00	None 1.33 1.33 5.66 8.00	None None None None 4.25 6.22 6.22 5.60	None None 6.60 7.10 None None None	None 5.60 6.10 None None	4.65 N 4.9 N 3.40 3.40 4.25 N 3.33 N 3.33 N	ione 4–5 4–5 ione ione	1.00 1.25 1.25 1.25 1.25 1.81	None None 1.75 1.75 None None None	1.11 1.49 1.50 1.50 2.06	1.22 1.49 1.50 1.87 2.75	3135 3135 3340 3340 3140 3140 3140	37 51 53 40 40	47 49 38½ 38½ 42	Sp	. Sp	No Yes Yes No
Columbia12000	Cars	2500	Var	% F	S B S B S B	2320 2320 2320	1020 2320	None None None	None None None	4.90 5.10	None None 5.80	None None None	None None None	None None	3.48 N 5.00 N 4.40 N 3.40 N	lone lone lone	1.31 1.31 1.50	None None None	1.25 1.31 1.56	1.56 1.75 1.43	3140 2335 2335 2335	40 40 40	38½ 37 37 37	Sp Sp	1	No
Eaten	Trucks. Truck. Trucks.	2300 2800 2000 2000 . 4000 . 4000 . 2670 3650 5500 14000 10000 6260 12500 14600	560 680 840 1330 330 460 675 900 1000 1300 2000 1830 2000 125 125 125 125 Var Var	1/2 F	S B S B I I G I G I G I I G I I G I I G I I G I I G I I G I I G I I G I I G I I G I G I I G I I G I I G I I G I I G I I G I I G I I G I I G I I G I G I I G	2315 2315 2315 2315 2315 2315 2315 2315	2315 2315 2315 2315 2315 2315 2315 2315	None 2315 2315 2315 2315 2315 None None None 2315 2315 2315 2315 2315 None None None None None None None None	None 1050 1050 1050 1050 1050 1050 None None None 2315 2315 Spec	$\begin{array}{c} 5.30\\ 5.66\\ 4.89\\ 2.54\\ 1.84\\ 2.84\\ 2.84\\ 2.67\\ 3.30\\ 5.33\\ 4.90\\ 4.75\\ 4.8\\ 4.9\\ 5.50\\ 5.50\\ 10.25\\ 7.75\\ 5.67\\ 7.8\\ 8.75\\ \end{array}$	3.86 1.57 1.59 1.52 1.70 1.84 None 1.66 3.7 None None None None None 1.68 None 1.68 None 1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	5.0 4.15 2.33 11.57 2.10 2.17 2.10 None 6.62 None None None None None None None None	None 3.43 4.00 4.30 4.84 None None None None None None None None	None None None None None None None None	3 14 N 3 70 3 80 3 87 3 90 N 3 63 3 58 3 58 3 50 N 3 50 N 4 00 N 4 43 N 4 48 N 5 48 N N N N N N N N N N N N N N N N N N N	one	1.50 .87 1.00 1.25 1.31 1.25 1.25 1.25 1.75 1.62 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75	1.12 1.25 1.62 1.81 None None None 3.00 3.00 3.50 3.50 3.50 3.75 None None None None	1.50 1.00 1.02 1.25 1.25 1.50 1.25 1.50 1.37 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.7	2 00 1 18 1 18 1 37 1 57 2 00 2 175 2 00 2 2 25 2 25 2 2 25 2 18 1 50 1 150 2 175 2	3140 3140 3140 3140 3140 3140 3140 3140	42 \(\) \(37½ 36½ 36½ 36½ 37½ 38½ 37½ 38½ 38½ 38½ 38½ 36 36½ 385 385 385 385 385 385 385 385 385 385	Sp.	T A. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp	No.
Sheldon Series 5000 Timken 5214 Timken 5716 Timken 6258 Timken 6462 Timken 6566 Timken 6666 Timken 6520 Timken 6521 Timken 6522 Timken 6522 Timken 6522 Us 10000 Vig-Ter 300 Vig-Ter 300 Vig-Ter 425	Cars Cars. Trucks. Trucks. Trucks. Trucks. Trucks. Trucks. T& Bu. Bus. Bus. Cars C & T. C & T.	7000 7000 10000 14000 17000	Var 150 120 200	1/2 F 1/2 F F F F F F F F F	Wo S B Wo Wo Wo S B Wo Wo S B S B S B S B S B	. 6115 6115 3120 3120 3120 3120 3120 6115 3120 3120	6115 6115 Bro Bro Bro Bro 6115 Bro Bro	None None None	None None None None None None None None	5.50 4.31 3.77 5.00 5.40 6.40 8.80 5.50 4.80 4.80 4.45 1.00	4.08 6.25 7.25 7.25 8.75 10.25 6.10 5.40 6.00 4.80 3.77 3.77	None 5.09 4.58 7.75 9.25 9.25 10.33 11.67 4.91 6.80 6.80 7.00 None 5.45 6.13 None	None None None None None None None None	None None None None None None None None	5.00 N 4.50 N Spec N Spec N Spec N Spec N 3.50 N Spec N 5.00 N 5.00 N 4.25 N 3.50	one	1.25 1.50 Spec Spec Spec Spec 1.75 Spec Spec Spec Spec 1.25 1.31	None None None None None None None None	1.37 1.62 1.62 1.90 1.90 2.25 2.62 1.75 1.90 2.25 1.90 1.25 1.12	1.50 1.62 2.12 2.62 1.90 2.25 2.37 1.90 2.25 1.90 1.56 1.56	Mol 3240 3240 3240 3240 3240 3240 3240 3240	41 39 39 39½ 44¾ 46 39 50 50 40 40½ 40½	38 39 38½ 38½ 44³⁄ 46 39 49	Sp Sp Sp Opt Opt Opt Opt Opt Opt Opt T A	T A Sp Opt Opt Opt Opt Sp Opt Opt Opt Opt Sp Sp Sp Sp Opt Sp Sp Sp	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Vulcon 3R Vulcon 4R Wisconsin 1000-E Wisconsin 800-GC Wisconsin 800-JJ Wisconsin 47 Wisconsin 42 Wisconsin 1600 Wisconsin 1000 Wisconsin 67-B-C	Trucks	. 4000 . 5500 . 8000 . 6000	9000 Var Var Var			Spec Spec Spec 2512 2512 2512 Spec 2512	Spec Spec Spec Spec 2315 2315 2315 Spec 2315	2512 None 2512	None None None None Spec. Spec. Spec. None Spec.	$\begin{bmatrix} 2.30 \\ 2.30 \\ 10.30 \end{bmatrix}$	6.80 11.75 7.75 6.25 8.66 2.00 2.00	8.56 8.60 9.33 9.66 None 1.75	6.50 None None None None 4.60 4.60 11.00 None 4.42	9.40 None		lone lone .8 .8 .8	Spec Spec Spec 1.37 1.37 1.75 Spec	AT	2.06 1.62 1.75 2.00 1.87 1.87 2.75 2.75	2.06 2.31 2.56 2.68 1.87 2.55 2.75 2.75	3140 3140 3140 3140 3140 3140 3140 3140	40 40 ³ / ₄ 40 40 40 40 40 40 48 48	36 36 48 38 38 38 36 36 40 ³ / ₄ 40 ³ / ₄ 38	Sp Sp Sp Sp Sp	Sp Sp Sp Sp	No No No No No No
Wisconsin	Trucks Buses Trucks	. 12000 10000	Var Var Var Var	F F F F	DR. DR.	. 2512 . 2512 . 2512	2 2315 2 2315 2 2315 2 2315 2 2315	2512 2512 2512	Spec Spec Spec Spec	2.30 2.30 2.30 2.30	2.00 2.09 2.00	1.75 1.75 None	5.30 8.60 4.42 5.30 4.40 5.30 8.66	9.40 7.00 7.00 10.40	3.00	.8	1.37 1.60 1.60 1.60 1.37	2.00	2.25 2.00 2.00	2.25 2.00 2.00 3.00	3140 3140 3140 3140 3140	44½ 43 50	38 43 38 46 38 ¹ / ₂	Sp Sp Sp	. Sp . Sp	No
Wiscensin	Trucks F Trucks Buses Trucks Trucks Trucks Trucks	. 10000 . 12000 . 12000 . 12000 . 9000 . 10000 . 12000	Var Var Var Var Var Var Var	1/2 F. 1/2 F. 1/2 F. F. F. F. F.	Wo DR. DR. Wo DR. DR.	2512 2512 2512 2512 2512 2512 2512 2513	2 2315 2 2315 2 2315 2 2315 2 2315 2 2315 2 2315	2512 2512 2512 2512 2512 2512 2512 2512	Spec Spec Spec Spec Spec	2.30 2.30 2.30 2.30	2.00 2.00 2.00 2.00 2.00 2.00	None None None	7.75 9.40 6.20 10.00 7.10 8.66 6.00	10.66 7.75 7.25 11.66 9.20	3.50 3.50 3.50	4-5 4-5 4.50	1.37 1.37	9 95	2.00	3.00	3140 3140 3140 3140 3140 3140 3140	41	38½ 42 45 39 38 38½ 45	Sp Sp Sp Sp Sp Sp Sp	. Sp Sp	No

ABBREVIATIONS:

1—Gear Manufacturers

A A—Above Axle

B—Bevel

Bev—Bevel

B-L—Brown-Lipe

B-L-C—Brown-Lipe-Chapin B A—Below Axle B-R—Ball and Roller Bro—Bronze Bu—Buses C—Cars

Car—Carbon
CS—Cast Steel
D R—Double Reduction
Ext D S—External Driveshaft
Ext Rw—External Rear Wheels
F F—Full Floating

F—Semi-Floating
F F—Three-quarter Floating
F R—Front and Rear
Gre—Grease
Hyd—Hydraulic Brakes
I F—Inside of Frame

ustries 1926

Torque Taken By Prevision for Radius Rode?

A No.
A No.
A No.
A No.
A No.
A No.
D No.

D. Year.
Det. No.
D. Year.
Det. No.
D. Year.
Det. No.
Sep. No.

Axle Specifications

=		DIFFERE	NTIA	L	SERVI	CE B	RAKE	E .	EMERGE	NCY I	BRAK	Œ			В	EARIN	GS							
Designed for Hotchkiss Drive?	Location of Spring Pads	Make	Туре	Number of Pinions	Type and Location	Diameter of Drum (Ins.)	Width (Ins.)	Thickness our (Ins.)	Type and Location	Diameter of Drum (Ins.)	(-)	Thickness (Ins.)	Location of Brake Shaft Arms	First Reduction Pinion	Final Reduction Pinion	At Differential	At Wheels	On Pinion Shaft	Axle Housing Material (S.A.E. No.)	Minimum Road Clearance With Regular Tire Size (Ins.)	Tread (Ins.)	Weight (Lbs.)	Recommended Lubricant	MAKE AND MODEL
	B A B A A A A A A A	New P	B B B B B	2 2 4 4 4 4 4	Ext-Rw Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw	21 24 16 17½	2 3 3 2 2 ¹ / ₂ 2 ¹ / ₂	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Int-Rw. None. Int-Rw. Int-Rw. Int-Rw. Int-Rw.	24 16	3 2	1/4	O F O F O F I F I F	Ball Ball	None None	Roller Ball Ball Roller Roller Roller	Roller Roller Roller Roller	Roller Ball Ball	Ma I Ma I Ma I Steel Steel Steel	8 -36 55/8-34 9 -32 83/4-36 83/4-36	72 75 56 60 ³ ⁄ ₄ 72	850 1000 365 760	No. F No. F Oil Oil Oil	Adams
Yes Yes	A A Opt	B-L-C B-L-C B-L-C	B B	4 4 4	Int-Rw Ext-Rw Ext-Rw	16	2½ 2 2½ 2½	16 33 32	Int-Rw. Int-Rw. Ext-D St. Int-Rw. Ext-D St. Int-Rw. Ext-D St. Int-Rw.	16 14 16	21/4 13/4 21/4 21/4	**	IF Opt Opt	Roller Roller Roller	None None None	Roller Roller Roller	Roller	Ball Roller Roller	Steel Spec Spec	9½-34 11 -32 10 -32 10 -34	571/4 56	370 240 270	Oil Oil	Clark B-501 Columbia 12000 Columbia 33000 Columbia 53000
Yes	B A	B-L. B-L. B-L. B-L. B-L. Frost Frost B-L. Frost Frost Frost B-L. Frost Frost B-L. Frost B-L. Frost B-L. B-L- B-L- B-L- B-L- B-L- B-L- B-L-	B. B	444444444444444444444444444444444444444	Ext-Rw Int-Rw Ext-Rw Ext-Rw Int-Rw Ext-Rw Ext-Rw Ext-Rw Ext-Rw Ext-Rw Ext-Rw Int-Rw	167/8 20 20 24 14 16 14 12 14 12 14 12 14 12 16 18 12 14 18 12 14 18 21 17 18 20 24	21/2 31/2 31/2 5 5 5 5 5 41/2 23/4 23/4 21/2	***********	None None Int-Rw None None None None None None None None	135% 20 10 135% 155% 155% 16 14 16 14 16 12 14 16 18 21 17 18 20 24	134 134 41/2 2 21/4 2 23/4 23/4 2	To the total and	I F I F I F I F I F Opt	Roller Roller Roller Roller Roller Roller Roller Ball Ball.	Ball Roller None None None None None None None None	Roller Roller Roller Roller Roller Roller Roller Roller Ball Ball Ball Ball Ball Roller Roll	Roller Ro	Roller Roller Roller Roller Roller Roller Ball	Steel Steel 1040 1040 1040 1040 1040 1040 1040 1	936-32 944-33 114-32 124-34 123-36 121-36 841-2 844-32 104-38 105-38 105-38 111-38 110-38 111-38 110-38 111-38 110-38 111-38 110-38 111-38	56 57 6 60 1 6 7 6 6 6 6 6 6 6 6	3355 2855 5600 11000 Var Var Var Var 2500 5077 3900 304 1655 196 4600 6211 813 12500 9411 14366 9411	Oil Oi	Eaton. 41HB Eaton 70 pb 1278 Eaton (Torb) 7502 Eaton (Torb) 15000 Eaton (Torb) 15000 Eaton (Torb) 25000 Eaton (Torb) 25000 Eaton (Torb) 25000 Eaton 1502 Eaton. 1502 Eaton. 1502 Eaton. 1502 Eaton. 1502 Eaton. 2100 Eaton. 40000HB Eaton. 40000HB Eaton. 65000 Eaton. 65000 Eaton. 65000 Eaton. 77-BA-10 Flint 77-BA-10 Flint 77-BA-10 Flint 70-BA-10 Saliabury A Saliabury H Saliabury C Saliabury S Saliabury C Saliabury S Saliabury C Saliabury C Saliabury S Saliabury C Saliabury C Saliabury S Sheldon W1002 Sheldon W1002 Sheldon Series 10000 Sheldon Series 10000 Sheldon Series 10000 Sheldon Series 10000 Sheldon W31 Sheldon W51
Yes Yes Yes Yes Yes Yes Yes Yes Yes Opt Opt Opt	Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt.	Own Own	B B B B B B B B	244444444444444444444444444444444444444	Int-Rw Ext-Rw Ext-Rw Int-Rw Int-D S Int-D S Int-D S	143/8 16 15 171/4 18 21 24 16 171/4 171/4 171/4 19 91/2	21/2 31/2 41/8 53/4 53/4 53/4 53/4 53/4 53/4 53/4 53/4	14/4/4/4 1/4/4 216/4/4 1/4/4 216 216 216	Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Ext-De§ Ext-De§ Ext-De§ Int-Rw.	135% 155% 15 1714 18 21 24 14 105%	3 134 21/2 31/2 41/8 53/4 57/8	14 14 14 14 14 14 14 14 14 14 14 14 14 1	IF IF F&R F&R F&R F&R IF IF IF IF Opt Opt	Roller Roller Roller Roller Roller Roller Roller	None None None None None None None None	Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller	B-R Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller	Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller		12½-36 9½-32 10 -34 9½-32 9¾-34 9½-36 9½-38 10¼-40 9 -34 5½-34 6⅓-32 10 -32 10 -33 10 -34 13 -36	56 56 60 58½ 65¼ 69½ 56 72 72 72 56 56 56	225 335 400 675 850 1290 1700 450 900 1100 950 250 225 300	Spec Spec Spec Spec Spec Spec Spec Spec Spec Spec Spec	Timken 6666 Timken 6760 Timken 5620
Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes.	A A A A A A Opt Opt A A A A Opt	Own Own Own Own Own Own Own Own Own Own	B B B B B B	4 4 4 4 4 4 4 4 4	Int-Rw.	20 24 17 17 17 18 17 24 24	2 3 ¹ / ₂ 3 3 4 3 ¹ / ₂ 3 ¹ / ₂ 4	1/4 1/4 1/4 1/6 1/6 1/6 1/4 1/6 1/4 1/6 1/4 1/4	Int-Rw.	18 121/4 121/4 121/4 131/2 121/4 181/6	21/2 21/2 21/2 21/2 31/6	1/4 1/4 1/4 1/6 1/6 1/6 1/6 1/6 1/6 1/6 1/6 1/6 1/6	IF IF IF IF IF IF IF IF	Ball Ball Ball Ball Ball Ball Ball Ball	None Roller None None Roller Roller	Ball Ball B-R Ball Ball	Roller Roller Roller Roller Roller Roller Roller Roller	Ball Ball	C S Ma I Ma I Ma I Ma I Ma I Ma I Ma I Ma I Ma I	11 -42 11 -36 11 -36 11 -36	56½ 70½ 57½ 57½ 58 57½ 57½ 70	850 1400 510 600 660 525 475 1400 1400	Oil Oil Oil Oil Oil	Vulcon 3R Vulcon 4R Wisconsin 1000-B Wisconsin 800-GC Wisconsin 800-J-JC Wisconsin 470 Wisconsin 420 Wisconsin 1600 Wisconsin 1000F Wisconsin 67-B-C
Yes., Yes.,	A A Opt.,	Own. Own.	B B B		Int-Rw Int-Rw Int-Rw	20 18	3 4 4	16 16 1/4 1/4	Int-Rw Int-Rw Int-Rw	12½ 15 % 13½ 13½	2½ 2½	18 18	I F I F I F	Ball Ball Ball	Roller Roller	B-R	Roller	Ball Ball Ball	Ma I Ma I Ma I	11 -36 12 -40 11 -36 11 -36	57½ 66 64½ 57½ 66 71¾	690 980 750 720	Oil	Wisconsin
Yes. Yes. Yes. Yes. Yes.	A A. Opt. A A. A A. Opt.	Own. Own. Own. Own. Own. Own. Own. Own.	B B	4 4 4 4 4 4	Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw Int-Rw	20 20 20 20 17 20 20 20	3 3 4 3 3 4	16 3 16 3 16 3 16 3 16 3 16 3 16 3 16 3	Int-Rw. Int-Rw	15 % 15 % 15 %	$2\frac{1}{2}$ $2\frac{1}{2}$ $2\frac{1}{2}$ $2\frac{1}{2}$ $2\frac{1}{2}$	3 16 3 16 2 16 3 16 3 16 3 16 3 16 3 16	IF IF IF IF IF	Ball Ball Ball Ball Ball Ball Ball Ball	Roller Roller Roller Roller	Ball Ball B-R Ball	B-R Ball	Ball Ball Ball Ball Ball Ball Ball	Ma I. Ma I. Ma I. Ma I. Ma I. Ma I. Ma I. Ma I.	12 -40 12 -40 12 -40 13 -40 12 -40 11 -36 12 -40 13 -40	59½ 64 73 60 575% 59½ 73	1000	Oil Oil Oil Oil	Wisconsin. 88-E Wisconsin. 900-CA Wisconsin. 130-BG-F Wisconsin. 125-K Wisconsin. 900-D-DA-E Wisconsin. 660 Wisconsin. 88EF Wisconsin. 88EF Wisconsin. 1300K

I G—Internal Gear Int Rw—Internal Rear Wheels Int D S—Internal Driveshaft Ma I—Malleable Iron Moi—Molybdenum New P—New Process No. F—Non-Fluid
No—None
OF—Outside of Frame
Opt—Optional
S-A—Springs and Torque Arm
S B—Spiral Bevel

Sp—Springs
Spec—Special
S-R—Springs or Radius Rods
S-T—Springs and Torque Tube
T—Trucks
T A—Torque Arm

Var—Variable
Wo—Worm
†—Width of Drum
*—Optional
‡—When used with four wheel brakes

American Stock

		Maxi- mum Torque	Mazi- mum	Recem- mended Ratio of				Maxi-	Thick-	Mean	DIAMET	TER OF	Number	Area of	No.	No.	CL (
MAKE AND MODEL	Designed For	of Clutch With Which Engine Can Be Used (Lbs. ft.)	Torque Capac- ity of Clutch When New (Lbs. ft.)	Max. Torque Cap. of Clutch to Max. Torque of Engine	Туре	Dry or in Oil	Facing Material	mum Co- efficient of Friction	ness of Each Facing (Ins.)	Radius of Each Friction Face (Ins.)	Maxi- mum (Ins.)	Mini- mum (Ins.)	of Wearing Faces of Friction Material	Each Friction Face (Sq. Ins.)	of Driv- ing Mem- bers	of Driv- en Mem- bers	Shaft Mate- rial (S.A.E.) (No.)	Disk or Plate Mate- rial
Borg & Beck	Cars. C T & B. Trucks. T & B. Trucks. T & B. T & T & T & T & T & T & T & T & T & T &	275 Var	475 180 250 300 300 300 300 270 450 Var 84 125 165 184 208 250 Var 225 400 1005 Var	Var. Var. Var. Var. Var. Var. Var. Var.	M D. S P. S P. S P. S P. S P. M D. M	Dry Dr	Wo F. Wo F. Wo F. Mo C.	.05 .30 .30 .30 .30 .30 .30 .30 .30 .30 .30	.12 .12 .12 .12 .12 .12 .12 .13 .18 .18 .15 .15 .15 .15 .15 .15 .15 .15 .15 .15	3.75 4.18 5.03 4.78 5.03 4.78 5.03 4.78 3.65 3.65 3.65 3.65 3.65 3.65 3.65 3.65	8.62 8.87 9.87 11.87 11.87 11.87 11.87 11.87 11.87 11.87 11.87 9.25 8.43 9.25 8.43 9.25 8.43 9.25 8.43 9.25 8.43 8.43 8.43 8.43 8.43 8.43 8.43 8.43	6.53 6.72 6.75 7.75 7.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6	21 2 4 4 2 2 4 4 4 2 2 2 6 8 8 4 10 12 14 16 6 8 8 2 2 2 1 4 4 2 2 4 4 4 4 2 2 4 4 4 4 2 2 4 4 4 4 2 2 4 4 4 4 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 2 2 2 4 4 4 4 4 2 2 2 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 4 4 2 2 2 4 4 4 4 4 4 4 2 2 4	498.00† 32.40 40.00 69.50 69.50 56.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 34.20 34.20 34.20 34.20 34.20 35.50 38.10	5222222222334415667088845933495678880111122223332333223322322	6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2330 None None None 3140 None None 2320 2320 2320 2320 2320 2320 2320 2	Cr St. Steel. Cast L. Cast Steel. Steel Steel Steel. Steel Steel Steel. Steel Steel Steel.
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Yellow9½"	Buses	Var 350	Var 450	1.30	S P	Dry Dry	Mo C Wo F	.28	.16 .25	4.00 5.40	9.50 14.25	6.50 7.37	1 2	19.00 116.00	1 2	1	3120	Wo I

*—Varies According to Load. Ann B—Annular Ball. Ball T—Ball Thrust. Bell H—Bell Housing. C—Cars. CrSt—Cold Rolled Steel. Cast I—Cast Iron. Gear T—Gear Teeth.
Lea—Leather.
MD—Multiple Disc.
Mo C—Molded Composition.

Russian Petroleum Exports

THE total petroleum products exports from the Soviet Republic for the fiscal year 1924-5 amounted to 1,338,000 tons, which is an increase of 45.2 per cent. over the pre-war figure (1913), whereas every previous year showed a diminution. First in respect to quantity among the products exported is fuel naphtha, the exports of which amounted to 426,000 tons or 31.7 per cent of the total. Then come refined petroleum with 391,000 tons and 29.2 per cent; gasoline with 276,000 tons and 20.5 per cent; lubricating oil with 183,000 tons and 13 per cent, and

For the refined petroleum the chief market was the Near East. Thus, for instance, 70 per cent of the requirements of Egypt for this fuel were met by Soviet petroleum. Gasoline, on the other hand, is shipped mainly to Great Britain (33.9 per cent), France (27.4 per cent) and Ger-

crude naphtha with 62,000 tons total and 4.7 per cent

Gasoline, on the other hand, is shipped mainly to Great Britain (33.9 per cent), France (27.4 per cent) and Germany (22.6 per cent). As regards lubricating oils, the principal customers of the Soviet were Germany (55.8 per cent), Belgium (13.5 per cent), England (12.6 per cent) and France (10.8 per cent).

Crude oil was exported mainly to Austria, Hungary, Italy and the Baltic States, where it is refined.

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accepte at 10 sl to the l ton-mile

Clutch Specifications

	1	PRESSUR	RES (Lbs.))	do 4	Overall		DRIVE T	AKEN BY		Multi-				4		
No. of prings	Total Spring Pres- sure	Total Pres- sure on Friction Face	Pressure per Sq. Ins. of Fric- tion Surface	Pressure Required at Thrust Bearing to Dis- engage	Min. Travel of Clutch Throwout Bearing to Complete Disengage- ment (Ins.)	Outside Diam- eter of Clutch (Ins.)	Type of Throwout Bearing	From Flywheel to Driving Members of Clutch	From Driven Members of Clutch te Driving Shaft of Clutch	Means of Adjust- ment	plying Levers or Toggles Used?	Is Clutch Brake Provid- ed?	Seld With Gear- set?	Adapted for Use With	Bell Housing (S.A.E.) (Nos.)	Weight (Lbs.)	MAKE AND MODEL
311111112222222211333343111111111111331666696696666116 962260	255 300 225 275 275 275 275 300 275 330 330 330 330 330 330 330 330 330 33	585 1000 2200 2200 2200 1500 2200 330 330 330 330 330 330 330 700 700 Var Var Var 1200 11200 1200 1200 1200 1200 1200	27.6 30.0 45.0 31.6 35.5 31.6 27.0 13.0 13.0 13.0 13.0 13.0 13.0 13.0 13	33 33 300 250 300 300 300 330 330 330 330 330 330 3	34 25 43 50 50 50 37 31 18 18 18 50 25 31 31 31 31 31 31 31 31 31 31 31 31 31	1134 1336 1336 1336 1336 1114 1514 934 944 944 944 944 1114	Plain T. Ball T. Ann B. Ball T.	Pins	Splines Splines Splines Splines Splines Splines Keys Keys	S C P. S	Yes. Yes. Yes. Yes. Yes. Yes. Yes. No. No. No. No. No. No. No. No. No. No	No. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes	NO. NO. NO. NO. NO. Opt. Opt. Opt. Opt. Opt. Opt. Opt. Op	Beil H. Opt. Opt. Beil H.	1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 5, 3, 4, 5, 5, 3, 4, 5, 5, 3, 4, 5, 5, 3, 4, 5, 5, 3, 4, 5, 5, 3, 4, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	52 541/2 541	Ansted. Borg & Beck. 9-1 Borg & Beck. I Borg & Beck. F Borg & Beck. F Borg & Beck. R Borg & Beck. F Brown-Lipe Cotta Gear Covert Gear Long Leng Leng Leng Leng Leng Leng Leng Le

Nic—Nickel Steel.
Open F—Open Flywheel.
Opt—Optional.
SCL—Screws in Clutch Levers.

SCP—Screws on Cover Plate.
Self A—Self Adjusting.
Step R—Stepped Ring.
SP—Single Plate.

Sp B—Spring Bolts. T—Trucks. Tr—Tractors. Th R—Threaded Ring. Uni J—Universal Joint. Var—Varies. Wo F—Woven Fabric.

Commenting on developments in British civil areonautics in 1925, the Engineer says it would appear that civil aviation as a means of travel is making sure but distinctly slow progress. Operating costs are, however, still very high, and even the Director of Civil Aviation of the Air Ministry has had to admit that ten times the present traffic would be required before air transport could be made to pay its way. In 1919, when it was first permitted in Great Britain, it was generally accepted that the cost of air transport could be taken at 10 shillings per ton-mile. Today the cost, according to the latest available figures, works out at 4s. 6d. per ton-mile.

SWISS automobile imports during the last trimester of 1925 amounted to 18.4 millions of francs, as compared with 20.2 million francs during the second trimester. Exports of Swiss automobiles during the same period dropped from 2.8 million to 1.1 million francs. The total value of motorcycle imports during the third trimester was 1,136,871 francs, as compared with 1,666,398 francs during the second. Great Britain continues to lead in the motorcycle imports, notwithstanding the fact that it furnished for 353,000 francs less during the third than during the second trimester. The United States overtook Belgium, while the imports from Italy increased slightly.

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American Stock Gearset Specifications—Continued

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	American	

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8	Had2 nisM	Ball Roller. Roller.	Ball Roller.	Roller. Ball Ball Ball Ball	Ball Ball Ball Ball Ball	Ball Ball Ball Ball Ball Ball Ball Ball	Alun B - Si B - Si
	Type	1 :22			Clash Condition of the	Clash	
enig (J	Maximum Eng Torque (Lbs. l	135			500 125 7 Var 7 Va	90 1125 1135 1135 1135 1130 1130 1130 1125 1125 1125 1125 1125 1125 1125 112	ú
	Designed for	C, T.	7.7.7.7.3.8.7.7.7.7.8.7.7.7.7.8.7.7.7.7.		Pruck Pruck	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	ABBREVIATIONS: **-Auxiliary Transmission. *-Secial Design. *-Secial Steel. *-Set Reado.
		Z0B 30	30 30 30 30 30 30 30 30 30 30 30 30 30 3	G25 D-21 12 A-AAU R&RU S&SU T	EB JUC RA3C RAP4 RUP4 RUP4	CN HS-A HS-A HS-A RI RI M35 R35 R450 04800	ATIC ary T Desi
	MAKE AND MODEL						KEVI nuxilia pecial semi S speton
	MO	Breeklyn Brewn-Lipe Brewn-Lipe	Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe Brown-Lipe	Campbell	Triffff		A S S S S S S S S S S S S S S S S S S S
		Breek Brew Brew	Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown- Brown-		COCCOCC COCCOCC COCCOCC COCCOCC COCCOCC COCCOC	Detroit Detroit Detroit Detroit Detroit Detroit Detroit Detroit Dundere Dundere Dundere Fuller	-

American Stock Gearset Specifications—Continued

R-P-Roller or Plain.

Eng—Unit with Engine. GeT—Gear Teeth. IndC—Individual Clutch.

Cast 1—Cast 1ron.
Cas Center.
Che—Center.
Che—Cart Iron and Aluminum.
C-S—Center or Side.

h—5th Ratio.
B—8uses.
B & R—Ball & Roller.
C—7th Ratio.

ABBREVIATIONS:
---Auxiliary Transmission.
--Special Design.
--Seml Steel.
---Optional.

	MAKE AND MODEL	Fuller	el-
Type	Recommended of Lubricant		ni Ste s. ors.
HT	munimulA	55555555555555555555555555555555555555	c—Special. —Semi Str TrucksTractors. —Variable
WEIGHT (Lbs.)	Cast Iren	170 1170 1170 1170 1170 1170 1170 1170	Spec Spec Var
	Standard S.A.I	Yes Yes Yes Yes Yes Yes Yes Yes	
	Sold With Cluto	NNNNO OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO	
tie	Centrel Lecation	22202222222 222222222222	
uo	Gearset Locati	::::::::::::	d .i.;
	Reverse	6.18 eU.: 4.4.02 Eng. 3.90 Eng. 3.90 Eng. 4.27 E-A. 4.27 E-A. 4.27 Eng. 5.78 Eng. 4.00 Eng.	fluid Oil. ars. or Plain
108	Fourth	None: None: None: None: None: None: None: None:	-Non Fluid Optional. -Rail Cars. -Roller or P
GEAR RATIOS	baidT	930000000000000000000000000000000000000	NoF OPT P-P- SeU-
GEA	Second	3.0 11.75 11.82 11.82 11.82 11.82 11.83 11.83 11.83 11.83	
	Гом	4.88.62.88.88.88.64.8 8.99.94.38.88.88.89.99.99.99.99.99.99.99.99.99.99	
-	Direct Drive on	4,000000000000040	ships ne. tch.
dət	Gear Teeth Pi	8-1-1-8 8-1-1-8 8-1-1-8 10	Amidship Engine. h.
(3	Geer Material (S.A.E. Numbe	23.20 20 20 20 20 20 20 20 20 20 20 20 20 2	with Teetl
(1	Shaft Material (S.A.E. Numbe	2320 1045 5140 3120 3120 Car. 2320 2320 1045 1045 2345 2345	Direct, Engine or Amidshi Unit with Engine. Gear Teeth.
lsin	solaM gnisueH	Cast I	Dir—1 Eng GeT IndC
(In.)	Reverse	74/0/4/0/16/0/0/0/16-40/4/4/4/4	inum.
GEAR FACES (In.	Fourth	None None None None None None None None None	rbon Steel. Cast Iron. ter. Trome Steel. —Cast Iron and Aluminum
GEAR	bridT	****	teel. ron. Steel. Iron and
TH OF	Second	0/0/0/0/ operate de site de /4/4/4 /0/0/4/0/site de site de /4/4/4 m/ operate /0/0/0/0/0/0/0/0/0/0/0/0/0/0/0/0/0/0/0	oon Steel ast Iron. r. come Stee Cast Iro
WIDT	Constant Mesh Set		Car—Carbon (Cast I—Cast) Co—Center. ChS—Chrome CI & Al—Cas Cast Cast Cast Cast Cast Cast Cast C
Drive	Type of Direct Clutch		C C C C C C C C C C C C C C C C C C C
	Number of For	***************************************	
naav lo -bne	Distance Betw Conter Lines Main and Secons ary Shafts (Ins	4888488 8448 44888 8888 88488 8838 8838 8838 8838	
ue 8	Inside Distance Bearing (Ween Bearing)	06.06 6.65 5.87 7.00 6.14 6.14 6.14 7.13 7.13	n. oller.
GS	Secondary Shaft	Ball Plain R.P. Plain Ball Plain Roller Plain Roller Ball	Alum—Aluminum. b—5th Ratio. B—Buses. B & R—Ball & Roller. C—Cars.
BEARINGS	Pilot	Ball Plain R.P Reler. Plain Plain Roller. Roller. Roller.	m—Al Sth Ra Buses. R—B th Rat
	Had2 nisM	Ball. Ball. Ball. Ball. Ball.	C S B S C C C C C C C C C C C C C C C C
	oqtT	Clash. Clash. Clash. Clash. Clash. Clash. Clash. Clash.	
eni;	Maximum Eng. Torque (Lbs.	Var 150 165 165 165 165 165 165 165 165 165 165	Jin.
	Designed for	& B. T. T. T. T. T. T. A. B.T. T.	VS: nsmissic
	MAKE AND MODEL	Fuller R T & B Mechanica J C T Mechanica J C T Muncie Gear T S C C T Muncie Gear T S Muncie Prod. 551475 Cars Muncie Prod. 551475 Cars Muncie Prod. 551475 Cars Muncie Prod. 54830 Cars Muncie Prod. 54830 Cars Manner Gear T 64 Cars Wanner Gear T 56 Cars C	ABBREVIATIONS: "-Auxiliary Transmission. "-Special Design. -Semi Steel. "-Optional. "-Article Autio.

American Stock Front Axle Specifications

	MAKE AND MODEL	Adense 75390 Adense 75702 Columbia 1200 Columbia 1400 Columbia 1400 Columbia 1400 Continental 2303 Continental 2402 Continental 1803 Continental 1901 Continental 2905 Eaten 141B Eaten 1804
ete ,sh	Weight (Compl Without Whee Lbs.)	100 6 100 6
(,20	d) bastT leadW	556 556 556 556 556 556 556 556 556 556
133	Diameter of Drum (Ins.)	None 112-14 113-14 117-17 117-17 117-17 1143-8 1143-8
FRONT WHEEL	Type	None None None None None None None None
		SSS OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
ROAD	sosie Sires (.anl)	4
RO	othosdA mumimiM (.anl)	000000000000000000000000000000000000000
tioi	Spring Pad Local	
jo q	Effective Lengtl Drag Link Arm (Ins.)	@ 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TIE ROD	End Type	Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball.
TE TE	Lecation	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
11	Do Wheels Trai	B E E C C C C C C C C C C C C C C C C C
Fere	Recommended & Aft Inclinatio	000000000000000000000000000000000000000
	Inclination of S ing Knuckle Spi dles (Deg.)	200000000000000000000000000000000000000
noile	Traverse Inclina of Steering Pive (Deg.)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
MATERIAL	Knuckle Arm (S.A.E. No.)	2330 1035 1035 1035 1035 1035 2315 231
MAT	Steering Knuckle (S.A.E. No.)	3130 2026. 2
TYPE	Pivots	Plain. Plain. Plain. Plain. Plain. Plain. Plain. Plain. Roller. Roller. Roller. Roller. Roller. Plain. Plain. Plain.
BEARINGS 1	Spindle teundT	Plain. Plain. Ball. Ball. Ball. Ball. Ball. Roller. Ball.
BEA	aduli ni	Ball. Ball. Ball. Roller.
	Type of Steering Head	Rev. Ell. Rev. Ell. Elliott El
	With of Flange (Ins.)	
ENTER	Depth of Section (Ins.)	
AXLE CENTER	Type	<i>ထုတ္ပတ္သတ္သတ္သတ္သတ္သတ္သတ္သ</i>
	Material (.o.M.E. No.)	1035 1035 1035 1035 1035 1035 1035 1035
no b (.ad.	aod mumixaM d) aba¶ gning2	2000 1200 1200 1600 2600 Var. Var. Var. Var. Var. Var. Var. Var.
	Designed for	75730 Cars 75702 Cars 75702 Cars 1200 Cars 1600 Cars 1600 Cars 5200 Trucks 2402 T & B. 2402 T & B. 2402 Trucks 1883 Trucks 1883 Trucks 1883 Trucks 1883 Trucks 1883 Trucks 1883 Trucks 1884 Cars 200 Trucks 1885 Cars 201 Trucks 1882 Cars 201 Trucks 201 Tru
	MAKE AND MODEL	
	MA	Adams Adams Adams Columbia. Columbia. Columbia. Columbia. Columbia. Continental Esten. Esten.

		. February 18,	20,
	MAKE AND MODEL	Eaten (7erb) 790F Eaten (7erb) AA 38 Shibury AB 58 Shibury BA 58 Shiden Series 28 Shiden Serie	Y&P-Voke and Pin
nplete els,	Weight (Con Without Whe Lbs.)	1000 1000	
.anl)	Wheel Tread	88888888888888888888888888888888888888	icks
FRONT WHEEL BRAKES	Diameter of Drum	6. None. 7. None. 7. None. 7. None. 7. None. 8. None.	T-Trucks
BRA	Type	None.	lliott
	(lns.) Equipped?	ANNUNE ZOONO SE SENUNUN OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCC	Rev. Ell.—Reverse Elliott
CLEARANCE	(lns.) Tire: Sizes	4	-Reve
CLE	etulosdA muminiM	V V V V V V V V V V V V V V V V V V V	E
ilası	Spring Pad Lo		Dog
uu o ya	Effective Leng Drag Link Ar (Ins.)		1
KOD	End Type	「古どどどささてである。 ややややみやみをでは「「「「「「「「」」できざらさささざらないでいる。「「」」では、「、、、、、、、、、、、、、、、、、、、、、、、、、、、、、、、、	
1	Location	HARRERERERERERERERERERERERERERERERERERER	1
list	Do Wheels 7	NNO 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
noi noi	Recommended & Aft Inclinati (Deg.)	00000	
sees niq2	Inclination of ing Knuckle dles (Deg.)		
oilan alov	Traverse Incli of Steering Pi (Deg.)	000000000000000000000000000000000000000	
KIVE	Knuckle Arm (S.A.E. No.)	233.5 233.5	
MATERIAL	Steering Knuckle (S.A.E. No.)	Sec. 25 (200) 10 (200) 1	
YPE	stoviq	Plain	
BEARINGS TY	olbniq2 sandT	Plain Ball Ball Ball Ball Ball Ball Ball Bal	
BEA	eduH nI	Roller.	
	Type of Steering Head		
	With of Flange (Ins.)	Ellioto Elliot	
CENTER	Depth of Section (Ins.)	e para A A A A A A A A A A A A A A A A A A	
AXLE CE	Туре		
VV	Material (S.A.E. No.)	10000000000000000000000000000000000000	
no l	Spring Pads (L	13300 22400 22400 22400 22400 22400 22400 22400 22500 22	
	Tol bengised	Trucks Trucks Trucks Trucks Trucks Trucks Cars Cars Trucks	-
	MAKE AND MODEL	Exten (Terb)	

Auto

MAKE

Curtiss.
{Curtiss.
Curtiss.
Curtiss.
Curtiss.
Fairchild
{Morehe
{Packard
Packard
Packard
{Packard
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Wright
Wright
Wright
{Wright

ABBRI †—Dist front *—Oute †—Man inforr °—Othe †—U. S

MAKE

tries

Rev. Ell.—Reverse Elliott Spec—Special Sck—Standard Equipment

N-P—No Provision Opt—Optional RA—Rear of Axle

Int—Internal
I-S—Section
Mol—Molybder

E-H-External Hydraulic Ext.—External IA-Internal Air Operated

*-Dimensions Optional

26

American Aero Engine Specifications

		CY	LIN	IDER DAT	A				RATING			COL	NSUN FION	AP-	WEI	GHT	CARB	U- RS	IGNI	TION	STAF	TING		INST	NSION	TION IS (In	s.)
MAKE AND MODEL	Arrangement	Cooling Medium	Number of Cyls.	Bore and Stroke (Ins.)	Total Piston Dis- placement (Cu. Ins.)	Compression Ratio	Brake M.E.P. (Lbs. per Sq. In.)	Mirs. Rated H.P. at Specified R.P.M.	Brake H.P. at Specified R.P.M.	Normal Crank- shaft R.P.M.	Propeller Shaft R.P.M.	Gas (Lbs.)	Oil (Lbs.)	Approx. Gallons Gas Per Hour	Engine Dry (Lbs.)	Per Brake H.P. (Lbs.)	Make	Number	Make	Current Source	Make	Method	Length	Overal Dveral	Width	Height Above Engine Bed	Center to Center of
Cartiss. V-1400 Curtiss. R-1454 Curtiss. R-1454 Curtiss. C-7-6A Fairchild-Caminez. 447-B Morebouse. M-30 Packard (Direct). 1500 Packard (Inverted). 1500 Packard (Inverted). 1500 Packard (Inverted). 1500 Rickenbacker. Tipa & Smith. "S-R" Wright "Whiriwind" J-4A Wright "Tornado" T-3A	Vee 60. Vertical. Radial. Horis. Vee 60. Vee 60. Vee 60. Vee 60. Radial. Radial. Radial. Vee 60. Radial.	Wat. Wat. Air. Wat. Air. Air. Wat. Wat. Wat. Wat. Wat. Wat. Wat. Air. Air. Air. Air. Air.	. 122 9 122 . 66 . 44 . 22 . 122 . 122 . 123 . 124 . 125 . 9 . 9 . 122 . 122 . 123 . 124 . 124 . 125 . 126 . 127 . 127 . 128 . 128	4 x5 47xx6/4 41/xx6 41/xx6 41/xx6 55/xx1/2 55/xx5/2 55/xx5/2 65/xx5/2 65/xx6/2 4.13x5.51 41/xx6 41/xx6 41/xx6 65/xx6/2 4.2x6 65/xx6/2 65/x6/2 65/xx6	1400 1454 1145 573 447 80 1498 1498 1498 2490 220 667 788 1947 1947	5.4 5.3 5.2 5.5 5.5 5.5 5.7 5.7 5.2 5.2 5.2 5.3 6.5 5.0	112 116 136 136 138 138 120 113 122 136 122	500-2100 400-1750 430-2250	\$\\ \frac{1}{4}\$ \$165-1750\$ \$\\ \frac{1}{4}\$ \$\\ \frac{1}	2100 1750 2250 1750 2500 2100 2100 2000 1800 1800 2000 1800 2000 1800	2100 1750 2250 1750 1200 2500 2100 1065 2100 1800 1800 1800 2000 1800	.48 \$.50 .50 .55 .52 .52 .52 .52 .52 .52 .52	.02 \$.01 .02 \$.03 .03 .03 .03 .03 .03 .03 .03	43 43 43 43 70 70 50 55 51	680 790 680 420 360 85 730 850 750 1146 1300 175 336 465 1170 1170	4.19 1.36 1.97 1.54 2.54 3.0 1.30 1.51 1.34 1.37 1.55 2.92 8 2.80 0 1.80 0 1.72 2.2.65 0 1.98	Stro Stro Stro Stro Stro Stro Stro Stro	2 1 1 1 1 1 2 2 2 2 2 1 1 1 1 1 1 1 1 1	Berl Spli Spli Berk Sein Sein Spli Opt Opt Spli Opt Sein Sein Sein Sein Sein Sein	M M M D C C D C M M M M M	1 Own 1 Bijur 1 Own 2 Bijur 2 Bijur 2 E'lipse 1 AeroM AeroM 1 AeroM 1 AeroM 2 Own 2 Own 2 Own 2 Own 2 Own	P.S. I H.C. I H.C. I H.C.	74½8 74¼6 30* 36* 43¾4 59¼6 59¼6 35½8	173/8 37 37 385/8 42 42 131/21 36* 4218 4218 4218	3014 2678 2678 2678 3014 3014 13121	10 16 22 17 22 17 611 26 1/2 26 1/2 0 18 0 26 1/8 26 1/8 0	127, 153, 0 153, 153, 153, 153, 153, 153, 153, 163, 17, 17, 0 0

ABBREVIATIONS:

†—Distance from Engine Plate to front of Crankcase.

*—Outside Diameter of Cylinders.

†—Manufacturer did not supply information.

*—Others Furnished

†—U. S. Air Service Engines

AeroM—Aeromarine.
Berk—Berkshire.
Berl—Berling.
C—Battery and Magneto.
d—Duplex
D—Double Magneto.

EM—Electric Motor.
HC—Hand Crank.
Horiz—Horizontal.
M—Magneto.
PS—Propellor Swinging.
Opt—Optional.

Scin-Scintilla. Scin—Scintilla.
Spec—Special.
Spli—Splitdorf.
Stro—Stromberg.
Wat—Water.
Zen—Zenith.

British Aero Engine Specifications

		C	YLIN	DER DAT	A				RATING				ISUN		WEI	GHT	CARBU	J- RS	IGNIT SYST		STAI	RTING			ALLA		
MAKE AND MODEL			96		is- Ins.)	Ratio	In.)	P. M.	Α.			Per B H.P.I	rake lour	s Cas										Overa	11		je ze
	Arrangement	Cooling Medium	Number of Cyls.	Bore and Stroke (Ins.)	Total Piston Dis- placement (Cu. I	Compression R	Brake M.E.P. (Lbs. per Sq. I	Mirs. Rated H.P. at Specified R.P.M.	Brake H.P. at Specified R.P.M	Normal Crank- shaft R.P.M.	Propeller Shaft R.P.M.	Gas (Lbs.)	Oil (Lbs.)	Apprex. Gallon Per Hour	Engine Dry (Lbs.)	Per Brake H.P. (Lbs.)	Make	Number	Make	Current Source	Make	Method	Length	Height	Width	Height Above Engine Bed	Center to Center
A.B.C. Scorpin Mk II A.D.C. Cirrus 27/60 A.D.C. Airdisco 120/140 [Armstrong S. Jaguar .IV	Vee 90°	Air Air Air	4 8	4.015x3.6 4.034x5.118 4.034x5.118 5 x5½	261	4.64	$96.5 \\ 96.5$	60-1800	140-2000	1800 1800	1800 900	.55	.02	4½ 9				1 B	TH TH TH	M M M M	1 ‡ 2 BTH 1 None 2 Own	Imp. Imp. P.S. H.C.	32 395/8 46 461/2	22 36 35 7 26 26	18 16½ 42⅓ 45	22½ 18½	21 ₁ 173
Armstrong S. LynxIV	Radial	Air	7	5 x5½	759	5.0	125	180-1620	190-1620	1620	1620	.52	.02	14	480	2.55	Zeni	DB	тн	M	2 Own	Gas H.C.	411/2	211/2	45	1	1
Bristol Jupiter V Bristol Lucifer IV Bristol Cherub III Napier "Lion" E-64	Radial Radial Horiz W	Air Air Wat	3	5 ³ / ₄ x7 ¹ / ₂ 5 ³ / ₄ x6 ¹ / ₄ 3.54x3.8 5 ¹ / ₂ x5 ¹ / ₈		5.3	127 119	425-1650 120-1700 33-3000 450-2000	132-1700 34-3000	1700 3000	1700 3000	.50	.03	8	330 95	1.80 2.50 2.90 2.10	Own Zeni	1 L	TH ucas Vatf TH	M M	2 Own 2 Own 1 Watf 2 Napie	Gas H.C. Imp. H.C.	53 48 25½ 57	20 19 83/4 36	42	2614	17,
Napier "Lion" E-64	1	1	12	5½x5½	1461	5.1	116	425-2000	430-2000	2000	1318	.55	.03	311/2	950	2.21	Clau	2* B	тн		2 Napie	C.A. H.C.	57	36	42	261/4	17
Napier "Lion" E-75					1461	5.8	122	450-2000	473-2000	2000	2000	.53	.02	321/2	915	2.03	Clau	2* B	TH	M :	2 Napie	C.A. H.C.	57	36	42	261/4	17,
Napier "Lion" Racing Napier "Cub" E-73 Rolls-Royce Condor .III Rolls-Royce Eagle IX Ralls-Royce Falcon III Sunbeam Dyak Sunbeam Manitou Sunbeam Maori III	W Vee 60° Vee 60° Vee 60°	Wat Wat Wat Wat	12 16 12 12 12 12 6 12	51/2x‡ 61/4x71/2 51/2x71/2 41/2x61/2 4 x53/4 4.72x5.12 4.33x5.31 3.94x5.31	538 940	5.3	127 128 127 123 130	\$ 1000-1900 650-1900 360-1800 250-1800 100-1200 300-2000 275-2100	650-1900 360-1800 250-1800 104-1200 308-2000	1900 1900 1800 1800 1200 2000	931 907 1080 1061 1200 1275	.48 .50 .51 .53 .49 .49	.03 .03 .02 .04 .04	44 25 18 65 195	1350 948 692 399 845	2.45 2.08 2.63 2.77 3.99 2.82 3.30	Clau Clau Clau Clau Clau Clau Clau	2 B	TH TH Vatf TH TH	M M M M M	Napie Napie Napie Wm Own Own Own Own Own Own	C.A. C.A. Gas Gas H.C. H.M. H.C. E.M. C.A.	69 16 73 65 59 641/2	45½ 46 41½ 37¾	30½ 33 30⅓ 23 33½	28 ¹ / ₄ 25 24	26 24 24 14 15 ³

ABBREVIATIONS:
1-1925 Specifications.
One Single, One Dual Carbureter,
Uniformation not furnished by manufacturers.

Armstrong S .- Armstrong

Armstrong ...—Armstrong ...—Armstrong ...—Siddeley
BTH—British Thompson Houston
CA—Compressed Air.
Clau—Claudel—Hobson.
D—Dual.

EM—Electric Motor.
HC—Hand Crank.
HM—Hand Magneto.
Horiz—Horizontal.
Imp—Impulse Starter.
M—Magneto.

PS—Propeller Swing.
T—Triplex.
Wat—Water.
Watf—Watford.
Zeni—Zenith.

\$—British Air Service Engines

Auto

ANCE

Service or Celling Height (Ft.)

5. 21, 5 5 4 31, 26 21, 31, 41, 41, 5 41, 41, 41, 5 5, 41, 41, 41, 5 5, 41, 41, 41, 5 6, 3

Hand Crk-Hand Mag-Land Mac-Mail C-Ma

American Airplane

	1	CEN	JEDAL O	u.r	ACTE	DICTIO	e			1	EN	GINE								D.F.C	-
		GER	NERAL C	HAR		rall Dir			-		EIA	GINE	•		F	ull	Cru	ising		PERFO	_
MAKE AND MODEL						ns (Ft.			20			- a		ju j		ottle		eed		Clim	
MARE AND MODEL			Designed For	ng Capacity	4	ŧ		s of ng Type?	s of Quick	and Mode	ber	Horsepower	ng and Type	od of Starting	¥	de (Ft.)	±	de (Ft.)	ing Speed	de (Ft.)	**
	Class	Туре	Desig	Seating	Length	Height	Width	Wings o	Wings	Make	Number	Total	Cooling	Method	M.P.H.	Altitude	M.P.H.	Altitude	Landing M.P.H.	Altitude	Minut
Alexander Eagle Rock Boeing (Mail) Boeing (Mail) Boeing NB-2 Boeing NB-2 Boeing PB-1 Boeing PB-1 Boeing PB-1 Boeing PB-1 Boeing PB-1 Comsolidated WC-2 Consolidated PT-1 Censolidated J Consolidated J Co	Tr-Bi	LandMae. LandMae. LandMae. Seap. LandMae.	Fi-S. Recon. Mail-C. Pas&F. Rac. Rac. Rac. Pas&F.	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8-8-10-14-2 2-10-14-2 2-10-14-2 2-14-14-8-13-1 7-77-6-6-3-7 7-7-6-6-3-7 7-7-7-6-6-3-7 7-7-7-6-6-3-7 7-7-7-6-6-3-3-3-8-8-3-3-3-8-8-3-3-3-8-8-3-3-3-3	20-10\(\frac{1}{2}\) 9 10-3 10-3 10-3 10-3 110-3 110-3 12-4 110-3 13-0 111-2 111-2 111-0 111-2 111-0 11-2 11-1 10-3 12-1 11-0 11-2 12-7 12-7 8-0 11-10-8 110-2 12-7 12-7 8-0 11-10-1 11-7 11-7 11-7 11-7 11-7 11-7	$\begin{array}{c} 36-10 \\ 88-4 \\ 35-4 \\ 34-55 \\ 34-55 \\ 34-55 \\ 34-55 \\ 34-55 \\ 34-57 \\ 3$	NOO OO	Yes Yes Yes Yes Yes No Yes No Yes No Yes No Yes No Yes No No No No No No	Curtiss D-12 Curtiss D-12 Curtiss D-12 Liberty 12 Curtiss C-6 Curtiss V-1400 Curtiss V-1400 Liberty 12 Curtiss OX5 Wright E-1 Liberty 12 Wright (Whirlwind) Wright (Whirlwind) Wright (Whirlwind) Liberty 12 Wright E Wright E Wright E Wright E Wright E Wright J Liberty A	3 1 1 1 1 1 1 1	4000 2000 2000 1800 1800 1800 1800 1800 1	W-Vee A-Rad W-Vee	Pro Swg Hand Crk. Ele Mot Fro Swg Hand Crk. Hand Mag	112 95. 100. 105. 105. 105. 105. 10.0 117.0 110.0 151.0 151.0 151.0 159.0 153.6 126.7 114.0 263.9 245.7	SeL	100 80 90 90 88 88 88 93 93 93 93 93 145 135 130 105 100 105 100 90 90 90 90 90 90 90 90 80 80 80 88 88 88	5000 SeL SeL.	40.0 45.0 45.0 44.4 42.45.43.0 445.0 445.0 64.0 65.0 55.2 575.0 60 40 45.5 50.0 40 45.5 50.0 40 45.5 50.0 50.3 8.3 8.4 60.5 50.5 50.5 50.5 50.5 50.5 50.5 50.5	5500 60000 50000 10000 10000 5525 570 6500 6500 6500 110000 1000000	10 10 10 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Leening-Amphibian Martin-Glenn L. MO-1 Martin Glenn L. SC-2 Martin Glenn L. SC-2 Martin Glenn L. SC-2 Mercury. MW-1 Mercury. MW-2 Mercury Jr. MW-3 Mercury Jr. MW-3 Mercury Jr. TA-1 Sikoraky. S-33 Sikoraky. S-33 Sikoraky-Curtiss Oriole Sikoraky. S-34 Sikoraky. S-35 Sikoraky. S-34 Sikoraky. S-34 Sikoraky. S-34 Sikoraky. S-34 Sikoraky. S-34 Sikoraky. S-34 Sikoraky. S-35 Sikoraky. S-34 Sikoraky. S-35 Sikoraky. S-34 Sikoraky. S-35 Sikoraky. S-35 Sikoraky. S-35 Sikoraky. S-35 Sikoraky. S-34 Sikoraky. S-35	Tr-Bi	Amph. Convt. LandMac. Seap. Seap. LandMac.	Pas&F Recon. Torp. Mail-C. Mail-C. Mail-C. Mail-C. Pas&F Pas	533334224422222222222222222222222222222	$\begin{array}{l} 4-4\\ 8-1\\ 1-87\\ 1$	12-3 12-11 14-8 16- 16- 11-4 11-4 9-10 9-10 9-10 9-10 9-10 11-6	45- 53-1 56-67/8 56-67/8 56-67/8 47-1 42-11 32-93/4 32-93/4 32-93/4 32-93/4 32-93/4 32-93/4	Yes Yes Yes No No No No No No	Yes No No No No No No No No	Liberty Inverted	111111111221111111111111111111111111111	4000 5400 5400 5400 1600 2000 1600 2000 1600 2000 1500 900 1500 900 4000 600 900 4000 600 900 2000 1600 900 1500 1	W-Vee. W-Vee. W-Vee. W-Vee. W-Vee. W-Vee. W-Vee. W-Vee. W-Vet. A-Rad. A-Rad. W-Vet. A-Rad. W-Vee. W-Vee. A-Rot. A-Rot. A-Rot. W-Vee. W-Vee. A-Rot. W-Vee.	Ele Mot Hand Crk. Hand Crk. Hand Crk. Hand Crk. Pro Swg Pro Swg Hand Mag Hand Mag Hand Crk. Hand Mag Pro Swg Pro Swg Ele Mot Ele Mot Hand Crk. Hand Mag Pro Swg Hand Mag Pro Swg Hand Mag Hand Mag Hand Crk. Hand Mag Hand Crk. Hand Mag Hand Crk. Hand Mag Hand Mag Hand Mag Hand Mag Hand Crk. Hand Crk. Hand Mag Hand Mag Hand Crk. Hand Mag Hand Mag Hand Mag Hand Mag Hand Crk.	125. 102. 197.7 197.7 135. 125. 132. 124. 132. 130. 110. 125. 110. 126. 130. 130. 130. 130. 130. 130. 130. 130	14000 0 0 0 0 SeL. SeL. SeL. SeL. SeL. SeL. SeL. SeL.	105	5000 SeL	50. 53. 55. 55. 51.9 56.8 51.3 51.8 52.8	10000 4700 4	

Manufacturers did not furnish information
 Lower wing only
 Average

A—Air cooled (Engine)
A—Ailerons (Control Surfaces)
A&E Tr.—Advanced and Elementary Training

Adv Tr—Advanced Training
Amph—Amphibian
Ambul—Ambulance
Comm—Commercial

Convt—Convertible
Day-B—Day Bomber
Dek-F—Deck flying boat
E—Elevators

Ele-Tr—Elementary Training
Ele-Mot—Electric motor
FI-S—Fighting scout
Fly-B—Flying boat

stries

ne

Specifications

Service or Celling Height (Ft.)
1000 1000 1000 1000 1000 1000 1000 100

A

C

Make

B & B.

Pul.
Own
Ful.
War G.
B & B.
B & B.
Ful.
Own
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Own
B-L
B-L
B-L

Mech MDD-MDO-Mun-M-W-N-E-O C-Opt-P&B-

D-Oil Dist

American Taxicab

		GEN	NERAL	1									ENG	IN	Е							
MAKE		ns.)	-	qe	leb	í.		ement	Ratio		.s.	Valve	8	- F	Oiling S	ystem	tien	Fuel Sys	stem	Ele	ectrical	System
AND MODEL	Price \$	Wheelbase (Ir	Tire Size (Ins.	Weight with C	Make and Mod	No. of Cylinde Bere and Stra (Ins.)	Rated H. P. (N.A.C.C.)	Piston Displac (Cu. Ins.)	Compression	Suspension	Number Cast	Head Ma- terial	Drive	Piston Mater	Туре	Pump Type	Water Circula	Carbureter Make	Fuel Feed	lgniti e W	Current Source	Generator and Starter Make
Dodge Brothers Driggs Elcar L-6 Elcar 8-80 H. C. S. 5 Luxor L Moller (Astor) Oakland 6 Pennant Premier 4-D Premier 4-F Rauch & Lang T Roo V Roo V-6 Traveler Willys-Knight GHF Yellow 04	1975 2897 2295 2895 2400 2400 2350 2185 2085 2600	117 116 109 118 127 110 1173 118 113 118 118 112 112 113 113 113 113 113 113 113 113	30x5 33x4½ 30x5.7 30x3½ 20x6½ 20x6½ 33x4½ 33x4½ 33x4½ 33x4½ 33x4½ 32x6 32x6 32x6 32x4 32x4 22x4 22x4 22x4 22x4 22x4 22x4	3340 4260 3800 3672 3672 3335 3775	Own. Cont 8R. Lye H. Wauk 2. Buda WTU Buda WTU Buda WTU Buda WTU Buda WTU Buda WTU Buda TU Buda WTU Buda WTU Buda TU Buda WTU Buda WTU Buda TU Buda WTU Buda WTU	4-3 ³ / ₄ x5 ¹ / ₆ 4-3 ¹ / ₆ x4 ¹ / ₂ 6-3 ³ / ₆ x4 ¹ / ₂ 6-3 ³ / ₆ x4 ¹ / ₂ 4-3 ³ / ₄ x5 ¹ / ₆ 4-3 ³ / ₄ x5 ¹ / ₆ 6-2 ⁷ / ₆ x4 ³ / ₄ 4-3 ³ / ₄ x5 ¹ / ₆ 4-3 ³ / ₄ x5 ¹ / ₆ 4-3 ³ / ₄ x5 ¹ / ₆ 4-3 ³ / ₄ x5 ¹ / ₆	22.50 24.03 16.90 27.34 28.80 16.90 22.50 22.5 22.5 22.5 22.5 22.5 24.30 24.30 22.50 21.03 18.60 22.50	212.3 149.0 241.5 254.4 149.0 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 239.0 239.0 26.4 26.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4 226.4	4 10 4 10 4 .0 4 .6 4 .5 4 10 4 .10 5 .0 4 .10 4 .10 6	3 De 3 De 3 De 3 De 3 De 3 De 3 De 3 De		CI. CI. CI. CI. CI. Sil. CI. Ast. Sil. CI. CI. CI. CI. CI. CI. CI. CI. CI. CI	Heli Heli Cha Heli	CI. CI. CI. CI. SS. SS. SS. SS. AI. AI. SS. AI. CI. CI. CI. CI. CI. CI. CI. CI. CI. C	Pr Cs.	Gear Gear Gear Gear Gear Gear Gear Gear	Pump. ThS.	Zenith Stewart. Zenith Strom Schebler Zenith Zenith Zenith Zenith Zenith Strom Zenith Strom Zenith Strom Zenith Zenith Tenith Zenith Zenith Tillotson Zenith Tillotson Zenith Tillotson	Gra. Vac. Vac. Vac. Vac. Vac. Vac. Vac. Va	ABos. Delco Delco ABos ABos RBos Remy ABos ABos RBos ABos RN-E LEise	B. M. B. B. M. M. B. M. M. B. M.	ABos RBos N-E. ABos Delco ABos RBos Remy West* ABos †Dyne; N-E. N-E. N-E. N-E. N-E. N-E. N-E. N-E.

ABBREVIATIONS:

- *ABBREVIATIONS:

 *At extra cost

 § —1925 specifications

 Exhaust valve only

 +Starter at extra cost

 †Delivered New York

 *Starter Make Gray & Davis

 A-Artiller
- A—Artillery
 A-Bos—American Bosch
 A-L—AutLoite

- Al—Aluminum
 Ast—Alloy Steel B—Batter,
 B-L—Brown-Lipe
 Blood Bros.
 B P S—Bevel Pinion & Sector
 B&B—Borg & Beck
 C&L—Cam and Lever
 Car—Carbon Steel
 Cha—Chain
 CI—Cast Iron

B-Battery

- Col—Columbia
 Cont—Continental
 CS—Cast Steel
 D—Disc
 Det—Detachable
 Der—Detroit
 Detl—Detlaff
 Dyne—Dyneto
 Ecc—Eccentric
 Eng—Engine

- Eise—Eisemann
 Ext-Ds—External Drive Shaft
 Ext-Rw—External Rear Wheel
 F—Valve in Head and Side
 f—Fabric
 F F—Full Floating
 Ful—Fuller
 Gra—Gravity
 Gem—Gemmer
 Hart—Hartford

- Heli—Helical Gear
 Hyd—Hydraulic
 Int—Integral
 Int-Rw—Internal Rear Wheel
 Jon—Jones
 L—Both Valves at Side
 Law—Lavine
 M—Magneto
 Lyc—Lycoming
 m—Metal

American Motor cy

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		,					ENGINI	E						IGNITIO	N ANI	LIGHT	ING SY	STEM	1	_	
		(Ins.)		.C.)		t t			Carbure	ter	Oili	ng Syst	em		Is	nition		Lighti	ing	-	lutch
MAKE AND MODEL	Туре	Number of Cylind Bore and Stroke	Cycle	Rated H.P. (N.A.C.C.)	R.P.M. at Maximu Brake H.P.	Piston Displaceme (Cu. Ins.)	Valve Arrangemen	Piston Material	Make	Size (Ins.)	Type	Pump Type	Lubricant Type	Туре	Current Source	Make	Stock or Optional	Туре	Meke	Туре	
Ace E Ace SE Cleveland FE Emblem 106 Evans Power Cycle G Excelsior Super X Excelsior Sup Sport Harley-Davidson A Harley-Davidson B Harley-Davidson AA Harley-Davidson AA Harley-Davidson BC Harley-Davidson BA Harley-Davidson AA Harley-Davidson BA Harley-Davidson BA Harley-Davidson BB Harley-Davidson BB Harley-Davidson AB Harley-Davidson BB Harley-Davidson BB Harley-Davidson BB Harley-Davidson BB Harley-Davidson BB Harley-Davidson CF Harley-Davidson BB Harley-Davidson	Vert. Vee. Vee. Vee. Vert. Vert. Vert. Vert. Vert. Vert. Vee. Vee. Vee. Vee. Vee. Vee. Vee.	4-2½x3½ 4-2½x2½ 4-2½x3½ 4-2½x3½ 1-2 x1½ 2-3 x3½ 4-2½x3½ 1-2½x3½ 1-2½x3½ 1-2½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½ 2-3½x3½	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	12.10 6.00 5.51 7.20 7.20 13.23 13.23 3.31 8.76 9.45 11.66 6.05 7.81 7.81	19-3600 24-4000 28-3400 13.0-3400 19.3-3400 22-3400 9.7-4000	74.0 79.4 36.4 60.9 73.6 21.2		Cast I Cast I Alum Cast I Alum A. Alum A. Cast I	Schebler Schebler Schebler Schebler Schebler	11/4 3/4 3/4 11/4 11/4 11/4 11/4 11/4 11	Splash Splash Sp Pr Sp Pr Splash	Gear. Gear. None None Pist.	.00	Ge&Ig SeU Ge&Ig SeU Ge&Ig SeU Ign Syst only Ge&Ig SeU Ge&Ig SeU Ign Syst only Ge&Ig SeU Ign Syst only Ge&Ig Comb. Ign Syst only Ge&Ig SeU	Mag Mag Mag Mag Mag Mag Mag Mag Bat Mag Bat Mag	Split. Split. RBosch Eric. Bosch. Split. RBosch RBosch RBosch RBosch Own Bosch Own Bosch Split. Split. Split. Split. Split. Split. Split. Split. Split.	Stk Opt* Stk Stk Stk	Ele Ele Ele Ele Ele Ele Ele Ele Ele Gas Ele	Split. Anny. Boech. Split. Split. Own. Own. Own. Own. Own. None. Split. Split.	None. Oil D Oil D Dry D Dry D Dry D Dry D Dry D Oil D	Pedal. Pedal. Pedal.
ABBREVIATIONS: Alum A—Aluminum Alle Bat—Battery. Brown & B—Brown & E Coat I—Coat Iron			Ei Ei	isem— le—Ele	ricsson.		•		Ge & I	g Co ion U 4 Se	on. mb—Ge inits Cor U—Gene	nbined erator :		H:	and L g Systonly.	lical Spri —Hand t only—	Lever.	n Syst		S—Leaf Ing—Ma G—Min In I SI E haust,	x Oil

ABBREVIATIONS: ABBREVIATIONS:
Alum A.—Aluminum Alloy.
Bat.—Battery.
Brown & B.—Brown & Barlow.
Cast I.—Cast Iron.
D Loop.—Double Loop. Dry D—Dry Disk.
Elsem—Eisemann.
Ele—Electric.
Eric—Ericsson.
Ext—External.
F Press—Full pressure.

Fric—Friction.
Ge & Ig Comb—Generator and Ignition Units Combined.
Ge & Ig Se U—Generator and Ignition Separate Units.
G on HB—Grip on Handle Bars.

HS—Helical Spring.
Hand L—Hand Lever.
Ing Syst only—Ignition System only.
Int—Internal.
Keyst—Keystone.

b

Bos. 6-8
Bos. 6-8
Bos. 6-8
E-. 12
Bos. 6-8
Felco. 6-8
F

Vheel

on System

Specifications

				T F	RANSN	IISSI	ON									R	UNNIN	G GEAR					
Clut	ch	(Gearset		Universa	l Joints			Rear A	xle			Bra	kes		Make	Stee	ring Gear	ation				MAKE
Make	Туре	Make	Location	No. of For- ward Speeds	Number and Make	Туре	Make	Туре	Final Drive	Gear Ratio	Prepulsion Taken By	Torque Taken By	Type and	Location	Schackles Type	Front Axle Ma	Make	Туре	Chassis Lubric	Length of Rear Spring (Ins.)	Wheels, Type	Frame Make	MODEL
B & B . S B & B . S B & B . S S Ful . M Ful . M Ful . M Ful . M Own . A Own . A B-L . A B-L . M B-L .	IDD. IDD. IDD. IDD. IDD. IDD. IDD. IDD.	Ful. Own. Ful. War G War G War G Ful. Ful. Ful. Ful. Own. Own. W-M Own. B-L.	Eng	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2-Blood 2-Blood -Own 2-Spicer 2-Spicer 2-Mech 2-Spicer 2-Mech 2-Spicer 2-Spicer 2-Spicer 2-Spicer 2-Spicer 2-Spicer 2-Spicer 1-Spicer 1-Spicer 1-Spicer 1-Spicer 1-Spicer	m	Col. Col. Own. Own. Sal. Sal. Own. Col. Col. Col. Col. Col. Col. Col. Col	AFFEFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	S B S B	4.17 4.70 4.70 4.5 5.12 4.70 4.87 4.50 4.50 5.10 4.70 4.70 4.12 4.90	Sp	Sp. Sp. Sp. Sp. Sp. Sp. Sp. T A. T A. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp	Ext-Rw	Int-Rw. Int-Rw. Int-Rw. Int-Rw. Ext-Ds. Ext-Ds. Ext-Ds. Ext-Ds. Int-Rw.	m. m	Col. Own. Sal. Sal. Sal. Own. Col. Col. Col. Col. Col. Col. Col. Col	Gem Own Lav Ross Ross Ross Ross Ross Ross Ross Jacox Jacox Jon Ross Ross Ross Ross Gem	W & G W & W W & W C & L C & L C & L C & L	P G O C P G	55 52 58 57 59½	D O D D D D D D	Smi Own. Smi B & B Hyd Smi Sav P & B. P & B. P & B. Own. Own.	Bauer. Checker E Dodge Brothers Driggs Elcar L-6 Elcar . 8-89 H. C. S. Laxor L Moller (Astor) Oakland 6 Pennant . Premier . 4D Premier . 4F Rauch & Lang T Reo V Reo V Willys-Knight FGH Yellow . A2 Yellow . 04 Yellow 05 Yellow

Mech—Mechanics Machine Co.
MDD—Multiple Dry Disc
MDO—Multiple Disc in Oil
Mun—Muncie
M-W—Motor Wheel
N-E—North East
O C—Oil Cups
Opt—Optional
P&B—Parish & Bingham

P G—Pressure Gun
Pick—Pickering
PrGs—Pressure to all Crankshaft
and connecting rod bearings,
splash to other parts
Pist—Piston
r—rubber
RBos—Robert Bosch
S—Sleeve Type

Sal—Salisbury
Sav—Savage
S B—Spiral Bevel
SeU—Separate Unit
Sil—Silchrome
S&N—Screws and Nuts
Sp—Springs
Spi—Spicer
S P—Single Plate

Sp Pr—Pressure to main crank-shaft bearings only, splash to connecting rods and other parts Smi—Smith S S—Semi Steel Sta—Standard Strom—Stromberg T A—Torque Arm Th S—Thermo Siphon

Tim—Timken
Vac—Vacuum
WarG—Warner Gear
Wauk—Waukesha
West—Westinghouse
W & G—Worm and Gear
W & S—Worm and Sector
W & W—Worm and Wheel
W-M—Willys-Morrow

tor cycle Specifications

M					TR	AN	SMI	SSIO	N					. 1	WHEEL	S Al	ND FR	AME		N	AISC	ELLA	NEO	us	Wei	ights	P	rices	
thing		Clu	ch	Gear	rset	¿Pe	¿Jun		Gear	Ratios								Br	akes	pea	-51		9400	-14	9				
Type	the state of the s	Туре	Centralled by	Туре	Number of For- ward Speeds	Reverse Gear Fitted?	Rear Wheel Sprun	Engine to Gearset	Low	Second	Third	Final Drive Type	Wheelbase (Ins.)	Tire Size (Ins.)	Frame Type	Frent Spring Type	Starting System	Foot	Hand	Maximum High Spe (M.P.H.)	Gasoline Tank Capacity (Gals.)	Oil Tank Capacity	Height of Saddle Al	Minimum Road Cle ance (Ins.)	Electrically Equippe (Lbs.)	Not Equipped (Lbs.)	Equipped	Not Equipped	MAKE AND MODEL
ile . Splittle . Own Ele . Own Ele . Own Ele . Splittle	yttnnnnnnn	Dry D Dry D Dry D Oil D	Pedal Handi	Prog.	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	No.	No. No. No. No. No. No. No.	2.00 None 2.56 2.56 2.77 2.77 2.77 2.77 2.69 2.53 1.60 2.57 2.55 2.55 2.55 2.55	9.65 8.00 10.10 12.00 12.00 16.3 14.92 14.92 9.50 9.77 12.00 12.68 12.57 11.97 19.61 11.50	5.00 None 8.00 8.00 10.10 10.10 9.24 6.33 6.51 7.30 8.07 8.07 8.06 7.69	5.00 6.25 6.25 5.72 5.72 4.68 4.34 4.50 5.13 5.09 4.85 6.05	Chain Chain Chain	561/2 551/2 55 55 55 55 60 60 60 54 611/2 54	26x3 .3 25x2 ½ 26x2 .2 25x3 .8 25x3 .8 26x3 .3 26x3 .3 26x3 .3 27x3 .8 27x3 .8 27x3 .8 27x3 .8 27x3 .8 27x3 .8	Diam. Diam. Diam. Diam. Diam. Diam. Loop. DLoop DLoop DLoop DLoop DLoop DLoop DLoop DLoop DLoop	HS HS HS HS HS HS HS HS HS	Kick Kick Pedal Kick	Ext Ext Hub Ext‡	Yes* None	75	33/4 21/4 21/2 3 3 3 3 41/4 4 41/4 4 41/4 4 22/4 22/4	4 2 2 3 3 3 3 3 4 4 4	30 30 29	6 5 5 4 ³ / ₄ 4 ³ / ₄ 4 ³ / ₄ 5 5	320 320 265 265 265 265 408	275 210 243 243 243 243 375 379	120 .00 285 .00 350 .00 235 .00 275 .00 275 .00 315 .00 415 .00 415 .00 3285 .00 335 .00	260.00 200.00 200.00 250.00 210.00 250.00 250.00 295.00 315.00 380.00 400.00 250.00 300.00 1290.00 300.00	Ace

5—Leaf Spring. 14—Magneto. G—Mix Oil with Gasoline. h I Si E—Overhead Inlet Side Exhaust. II D—Oil Disk.

O O—Oil Only.
Opt—Optional.
P & G H—Pedal and Grip on Handle
Bars.
P & H L-Pedal and Hand Lever.
Plst—Piston.

Prog—Progessive Sliding.
RBosch—Robert Bosch.
Si by Si—Side by Side.
Split—Splitdorf.
Sp Pr—Splash with Pressure.

Stk—Stock Equipment.
Vert—Vertical.

—Optional at extra cost.

†—Crank Case capacity.

‡—Foot Internal Brake at extra cost.

British Motorcycle Specifications

					EN	GINE							IRA	(SM	ISSI	UN						MISCE	LLANE	ous				PR
NAME						lent					Clute	h	Gearse	t	Gea	r Rat	tios					Bra	kes				ba.)	
NAME	Manufacturer's H. P. Rating	No. of Cylinders	Bere and Stroke (Int.)	Cylinder Arrangement	ype	Cubic Ins.)	Make	Valve	Piston Material	Oiling System	Туре	Centrelled by	Make	No. of Speeds	Low	Second	High	Drive	Wheelbase (Ins.)	Tire Size (Ins.)	Frame Type	Front	Rear	Starting System	Lighting System	Fuel Tank Capacity (Pints)	Weight of Solo Machine (Lbs.)	Solo £
J. S.	234 234 414 68 8124 315 315 315 315 315 315 315 315	12111111222111111111222211111111122221111	3 .463 .75 3 .36x3 .34 2 .5x3 .14 2 .83x3 .36 2 .83x3 .36 2 .83x3 .36 3 .14x3 .85 3 .34x3 .85 2 .99x3 .34 2 .87x2 .75 2 .8x3 .46 2 .67x3 .77 3 .03x4 .13 2 .36x3 .46 2 .75x3 .54 2 .75x3 .54 2 .79x3 .46	Ver. Ver. Ver. Ver. Ver. Ver. Ver. Ver.	444444444444444444444444444444444444444	59.8 J. 20 21.3 3 3 3 5 3 3 5 3 3	wnwnwnwnwnwnwnw	O. L. O. O. L.	Al., Al., Al., Al., Al., Al., Al., Al.,	SERENCE SERENC	SP. SP. SSP. SSP. MP. MP. SSP. MP. MP. MP. MP. MP. MP. MP. MP. MP. M		Bur. St. Ar. St. Ar. Albion. St. Ar. Bur. Bur. Bur. Bur. Bur. Bur. Bur. Bu	333333333333333333333333333333333333333	16 14 14 14 14 14 14 14 14 14 14 14 14 14	8.5 5.5 8.8 8.7 7.5 9.8 8.5 5.5 8.8 5.5 8.5 8	5.5.7.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5	Chain.	57 54 54 559 54 559 551 56 56 56 56 56 56 56 56 56 56 56 56 56	20x2-2-26	REBERERERERERERERERERERERERERERERERERER	V Rim Exp. Exp. Exp. Exp. Exp. Exp. Exp. Exp.	V Rim V Rim V Rim V Rim V Rim V Rim Exp. V Rim Exp. Exp. Exp. Exp. Exp. Exp. Exp. Exp.	KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	Nome. None.	10 16 16 16 16 16 16 16 16 16 16 16 16 16	155 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	100 344 340 3770 344 340 340 3470 340 3470 340 3470 340 3470 340 3470 340 340 340 340 340 340 340 340 340 34

ABBREVIATIONS:
Acet—Acetylene.
Al—Aluminum.
Bur—Burman.
Ch & B—Chain and Belt.
C I—Cast Iron.
Con—Contracting.

Elec—Electric.
Exp—Expanding.
F—Foot.
Fric—Friction.
Fuel—Oil mixed with fuel.
G & Ch—Gear and Chain.
H—Hand.

Hor—Horizontal.
Inc.—Inclined, side by side,
K.—Kick-start.
L.—Valves at side.
M P.—Multiplate.
O.—Overhead valves,
P.—Push-start.

R—Rigid at Rear.
S—Sprung at Rear.
SI—Sleeve Valve.
S & P—Splash and Pressure.
Spl—Splash.
S P—Single Plate.
St. Ar—Sturmey Archer.

V—Valveless two-stroke. V R—Vee Rim. Var—Various. Ver—Vertical. Friction Disk Drive. *—Four Valves.

MAKE

(Fo

Gemme Gemme

PRICE

Selo £ Standard Cembination £

o-stroke.

Drive.

British Motorcycle Specifications—Continued

				ENGI	NE						TRA	NSN	IISS	ION						MISCE	ELLANE	ou	S			PR	RICE
				ment					Clut	ch	Gearse	et	Ge	ar Ra	tios					Bra	ikes					_	
NAME	Manufacturer's H. P. Rating No. of Cylinders	2.2	Cylinder Arrangement	9	Make	Valve	ten	Oiling System	Туре	Controlled by	Make	No. of Speeds	Low	Second	High	Drive	Wheelbase (Ins.)	Tire Size (Ins.)	Frame Type	Front	Rear	Starting System	Lighting System	Fuel Tank Capacity (Pints)	Weight of Solo Machine (Lbs.)	Solo £	Standard Com-
Peters Peters Peters Peters Peters Raleigh Raleigh Raleigh Raleigh Raleigh Rover Sout Scott Scott Scott Sumbaam Sumbaa	31.2 1 1 2 1 1 2 2 3 4 1 2 1 2 3 4 2 1 1 2 1 2 3 4 1 2 1 1 2 2 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 2 3 3 4 1 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	3.11x2.75 2.79x3.46 2.04x3.46 2.04x3.46 2.29x3.46 2.9x3.46 2.91x3.14 3.34x3.46 2.75x2.5 2.75x2.5 2.75x2.5 2.75x2.5 2.75x2.5 2.75x2.5 2.75x2.5 2.75x2.5 2.75x3.54 3.34x4.15 2.275x3.54 3.34x3.46 2.83x3.34 2.83x3.46 2.93x3.50 3.34x3.50 2.75x3.54 3.34x3.50 2.75x3.54 3.34x3.50 2.75x3.54 3.34x3.50 2.75x3.54 3.34x3.81 2.91x3.18 2.91x3.18 2.91x3.18 2.91x3.18 2.91x3.34 2.91x3.36 2.75x3.54 3.34x3.36 3.34x3.81	Ver. Ver. Ver. Ver. Ver. Ver. Ver. Inc. Inc. Inc. Ver. Ver. Ver. Ver. Ver. Ver. Ver. Ver	4 21 3 4 30 .5 6 4 15 .2 30 .0 0 2 36 .6 4 30 .4 4 21 .3 4 48 .0 0 2 36 .6 6 4 30 .4 4 21 .3 4 4 21 .3 4 4 30 .5 4 30 .5 4 30 .5 4 30 .5 4 30 .5 4 4 21 .3 4 2	Own. Own. Own. Own. Own. Own. Own. Own.	L. O. L.	Al	SCONSOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSO	M P S P M	HH HH	Bur. Bur. Bur. Bur. Bur. Bur. Bur. Bur.	3 4 2 3 3 3 3 3 4 2 3 3 5 5 5 5 4 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	15.5 12.1 13.5 15.0 15.0 15.6 15.5 15.5 15.4 12.7 11.6 9.7	8.3 8.5 8.6 9.3 8.5 6.9 6.5 7.4 10.7 6.5 7.5 8.3 8.2 8.0 9.0 6.8 8.0 9.0 6.8 7.5 6.8 8.0 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 6.8 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5	534.4 45.5 55.5 65.5 55.5 43.7 54.4 43.9 63.25 55.5 65.4 65.5 65.4 65.5 65.4 65.5 65.4 65.5 65.4 65.5 65.4 65.5	Chain	523/2 588 488 533/2 55 55 56 56 56 56 56 56 56 56 56 56 56	28x3 24x2 4 26x2 4 26x2 2 26x3 2 26x3 2 26x2 2 26x3 2 26x2 2 26x3	S. R.	V Rim Exp. Exp. Exp. V Rim V Rim Exp. Exp. Exp. Exp. Exp. Exp. Exp. Exp.	Exp V Rim V Rim Exp V Rim	K K	Elec None	20 20 16 10 14 14 18 12 17 14 24 24 12 12 12 16 11 16 16 18 18 12 11 16 11 11 11 11 11 11 11 11 11 11 11	190 190 285 132 172 300 210 280 220 240 220 265 265 265 265 225 265 225 265 225 244 275 268 220 220 220 240 221 266 225 266 225 266 225 266 266 276 276 276 276 276 276 276 276	500 611 755 28 36 411 63 555 500 66 84 90 92 48 43 65 46 65 72 48 59 59 58 59 51 51 51 51 51 51 51 51 51 51 51 51 51	111 100 133 100 99 58 88 8 66 77 79 90

(For abbreviations see preceding page)

American Stock Steering Gear Specifications

		CAPA	CITY				UTSI AME		IN	EER-		MATI	ERIA	LS							BE	ARING	S					ON-	Drive?
	•		ie.						AF	RM						~:		1 6	Thrust				Ge	ear Sh	haft		LEV	ERS	Hand D
AKE & MODEL	Designed Fer	For Vehicle Gross Weight (Lbs.)	For Maximum Weigl on Front Wheels (Lh	Туре	Gear Ratio	Steering Gear (Ins.)	Wheel Shaft (Ins.)	Column Jacket (Ins.)	Center to Center Length (Ins.)		Housing	Reduction Gear	Nut or Cam	Gear Shaft S.A.E. No.	Wheel Spider	Adjustable for Wear?	Туре	Number	Make	Diameter (Ins.)	Length (Ins.)	Туре	Number	Make	Diameter (Ins.)	Length (Ins.)	Lecation	Type	Adapted for Right Ha
184 H & S T d 1853 I d 1854 T T d 1854 O Cat 1876 C Cat	rs. rs. rs. ucks. ucks. rs. rs. rs. rs. rs. rs. rs. rt. B, Tr. T,	Var Var Var 4500 30000 Var 13000 3200 3200 3200 2400 2400 2400 2400	Var. Var. Var. Var. Var. Var. Var. Var.	S&N S&N S&N S&N S&N S&N S&N S&N S&N C&L C&L C&L C&L C&L C&L C&L C&L S&N C&L S&N C&L S&N S&N C&L S&N C&L S&N C&L	98/8	18 18 18 18 20 20 20 20 18 Opt. Opt. Opt. Opt. 18 18 22 18 16 17 18 18 22 22 23 23 24 25 25 25 25 25 25 25 25 25 25	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13/4 2 13/4 13/4 13/4 13/4 13/4 21/4	7‡ 7‡ 8 8 9 9 Var. Var. Var. Opt. Opt. Opt. Opt.	100 100 90 80 Var. 80 80 80 80 90 60 Var. 40 70 70 70 70 70 70 70 70 70 70	CI	1020 1020 2330 1020 1020 1045 1045 1045 1045 1020 1020 3120 3120 3120 Spec Spec Spec Spec Spec Spec Spec Spec	1020 1020 1020 1020 1020 1020 1020 Bro. Bro. SS. Spec Spec 1020 1020 1020 1020 1020 1020 1020 102	1035 3135 8 Var. Spec Spec Spec Spec 1020 1020 2320 2320 2320 2320 2320 2320	W-A W-A Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt.	Yes. Yes. No. No. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes	Ball Ball Roller. Var Ball Ball Ball Ball Ball	2 2 2 2 2 2 2 1 1 1 1 1 1 2 2 2 2 2 2 2	Nice Nice Own Own Own Own Own Nice Nice None None	Var. Var. Var. Var. Var. Var. Var. Var.	5/8 5/8 5/8 5/8 5/8 5/8 5/8 5/8 5/8 5/8	Plain Plain	300 300 300 200 200 200 200 200 200 200	wn wn wn wn	Var. Var. Var. Var.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AW. AW. Var. BW. AW. Opt. Opt. Opt. Opt. W. Opt. W. Opt. W. Opt. SW. GW. W. OV.	SL. SL. SL. Opt. Qua. Qua. Qua. Opt. Opt. Opt. Opt. SL. SL. SL. Opt. Opt. Opt. Opt. SL. SL. SL. SL. SL. SL. SL. SL. SL. SL	Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes.

ABBREVIATIONS:
Al-Aluminum
AW-Above Wheel
B-Buses
Bro-Bronze
W-Below Wheel
B

C—Cars
C&L—Cam and Lever
CI—Cast Iron
Cleve—Cleveland
Mal—Malleable

N-D—New Departure NI—Nickel Iron Opt—Optional Qua—Quadrant R-L—Ratchet Levers

Shaf—Shafer
S&N—Screw and Nut
SL—Short Levers
Spec—Special
SS—Semi Steel

St—Steel
T—Trucks
Tr—Tractors
Var—Varies
W&A—Wood or Aluminum

W&S—Worm and Sector
W&W—Worm and Wheel
Wo—Wood
†—Varies
‡—Material Optional

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Motor

Total Parts

From Tires Fro

Motor

Tracto

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Cars a

Marine

Trailer

Aircra

Light Airplane Specifications

American and British

	(HARACTE	RISTICS		GENE	RALD	IMEN:	SION	S (Ft.	ins.)	EN	GIN	E		P	ERF	ORMA	NCE		WE	EIGH	TS (L	bs.)
				let)					in Wi	ings			Power		Spe (M.P	ed .H.)	Clim	b	d (Hrs.)		70		2
MAKE AND MODEL	Cless	Туре	Designed for	Seating Capacity (Including Pilot)	Length	Height	Wings of Folding Type	Span	Chord	Total Area	Make	Number	Total Horse P	Туре	Full Throttle (See Level)	Landing	A ltitude	Minutes	Endurance at Cruising Spee	Fully Loaded	Useful Loaded	Per H.P.	Per Square F
							A	ME	RI	CA	N												
Sumblebee	Tr-Mo.	Land Mac.	Racing	1	27-0	5-6	No			70 1	Henderson "4"	1		A-Vert	80	45	1000	2	9	510	150		7.
Darmay	Tr-Mo	Land Mac.	Sport Mac.	1	17.0		No	27 24 26 20 30 20 16 26	42	85 78	Henderson "4"	1	19	A-Vert	85	30	500			425 510	200	22.4 18.2	5.
leath Humming Bird incoln Sport Meteorplane M-T 1	Tr-Mo.	Land Mac. Land Mac.	Sport Mac.	1	17-3 16-0	5-7	No	20	40a	18	Henderson "4" Anzani	1	28 30	A-Rad	90	35	800	1		600	230	20.0	0.
Meteorplane M-T 1	Tr-Mo.	Land Mac.	Sport Mac.	2	18-0	5-0	No	30	34 63 37 30 48	160	Meteormotor 72.	1	20	A-Rad	70	30	400	1	3	600	300	30.0	3
Vieteorplane	TT-B1	Land Mac.	Sport Mac.	1	13-9	5-10	No	20	37		Meteormotor 72 Meteormotor 72	1	20 20	A-Rad A-Rad	95 80	32 65	500 400	1		450 450	225 200	22.5	4
Meteorplane M-T 3	Tr-Tr Tr-Mo.	Land Mac.	Sport Mac.	1	14-0	0-0	No	26	48	135	Harley Davidson	1	19	A-Vee	00	00	400			400	200	22.0	0
Pewell	Tr-Bi	Land Mac.	Racing	î	14-0	5-0	No	16	32	76	Bristol Cherub	1	25	A-Hor	85	50	7000	30 10	7	475	165	19.0	6
Roche-Dohse	Tr-Mo.	Land Mac.	Sport Mac.	1			No				Morehouse M-80	1	29	A-Hor			6000	10		500		17.2	1
								BRI		SH													
Austin	Tr-Bi	Land Mac.	Sport Mac.	1	16-0	1	Yes Yes	211/2			Anzani	1		A-Rad	85 75	35 30	5000	10		810		16.2	
vroAvii	Tr-Bi	Land Mac.	Sport Mac.	2 2	24-0 22-2	1.6	Yes	30	80	187	Bristol Cherub Bristol Cherub	1	30 25	A-Vee A-Hor	86	36				950 837	370 375		
Beardmore Wee Bee	Tr-Mo.	Land Mac.	Sport Mac.	2		6-6	No Yes	$ \begin{array}{r} 38 \\ 36 \\ 21 \end{array} $	60 72	204	Bristol	î	30	A-Hor	86 70	36			2	870	370	29.0) 4.
Cranwell	Tr-Mo.	Land Mac	Sport Mac.	1	18-6	5-9	No	21			Bristol Cherub	1	30	A-Hor			1.0000	1		530	205		3 7
DeHavilandMoth	Tr-Bi	Land Mac.	Sport Mac.	2	23-6 24-3	8-6	Yes	29	52 48a	150	A.D.C. Cirrus A.B.C	1	60	A-Vert	50	25	10000 170	45	13/2	1350 413	400 158	22.5	0.
English Electric Wren-2 Hawker	Tr-Bi.	Land Mac.	Sport Mac. Sport Mac.	2	20-0		Yes	28	51	165	Anzani	î	28	A-Vee	90 50 83	40 25 34	7000	30	3	750	165	22.5 26.5	4
				1	00.0	70	Yes	29 37 28 21 32½	51 30 54	041	Bristol		30	A-Hor	72	35				891			1
Parnall Pixic	Tr-Mo	Land Mac.	Sport Mac.	1	20-6 18-0	1-8	Yes	18	04	60	Blackburn	1	35	A-Nor	105	45		1		991		*****	
Parnall Pixie III	Tr-Mo.	Land Mac.	Sport Mac.	2	21-3	6-10	Yes				Bristol Cherub	i		A-Vee		1							

German

	C	HARACTER	RISTICS		GEN	ERAL DIM	IENSIO	NS (m	eters)	ENG	GINE			1	PERF	ORMA	NCE		W	VEIGH	TS (ki	(80
MAKE				city		olding	M	ain Win	ngs			ower		Spe (Kill Per	om.	Clin	nb	d (Hrs.)				Meter
AND MODEL	Class	Туре	Designed For	Seating Capa (Inc. Pilet)	Length	Height Wings of Fold Type?	Span	Cherd	Total Area	Make	Number	Total Horsep	Туре	Full Throttle	Landing	Altitude(M.)	Minutes	Endurance at Crusing Spee	Fully Loaded	Useful Load	Per H. P.	Per Square
Daimler	Tr-Mo Tr-Mo Tr-Mo	LandMac LandMac LandMac LandMac	SportMac SportMac	2 2 1	6.8 7.6	1.7 Yes.	11 13	1.65	20	Blackburne Merc. Daim Merc. Daim Blackburne Bristol	1 1 2 1	20 38 18	Vee Hor Vee Hor	120 120 120		1000	10	31/2	330 425	170	18.5 19.5	19.4

ABBREVIATIONS:

a—Average El Tr—Elementary Training

Hor—Horisontal **Land Mac—**Land Machine **Merc. Daim—**Mercury Daimler

Rad—Radial Sport Mac—Sport Machine Tr Tr—Tractor Triplane

Tr Bi-Tractor Biplane Tr Mo-Tractor Monoplane Vert-Vertical

T is reported from London that the option on the rights to the military use of the helicopter-like flying machine known as the Autogiro, which was invented by a Spanish engineer, Senor de la Cierva, and which was flown with some degree of success at Farnboro last October, has been allowed to expire by the British Government, which plans to investigate the principles involved in the operation of the machine mathematically and experimentally, but will do nothing further in the matter for the present. It is understood that five machines based on the Autogiro design are under construction in England at present. Meanwhile the original machine has been taken to France

and will be demonstrated to the French military authori-

NE of the two large dirigibles now under construction in England, the R101, will be fitted with Diesel type high speed heavy oil engines built by Boardmore. Seven of these engines, of 600 h.p. each, will be carried.

FFICIAL German figures show that the exports of synthetic wood alcohol (methanol) during the period of January to April of 1925 amounted to 578 metric tons to the U.S., 746 tons to Great Britain, 490 tons to Russia and 469 tons to Switzerland.

(kilos)

authori-

th Diesel pardmore. carried. kports of he period tric tons to Russia

557,425 American Cars and Trucks Exported in 1925

Gain over 1924 is 47.7 per cent. Value in dollars totals \$416,782,720

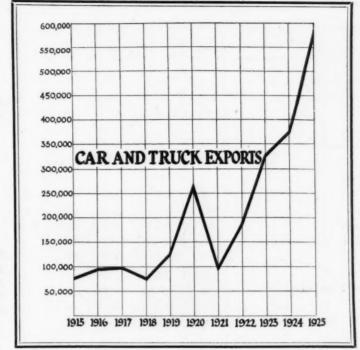
By George E. Quisenbury

Editor, The American Automobile (Overseas Edition)

EXPORT sales of American cars and trucks in 1925 were 47.7 per cent greater than in 1924 and reached the astonishingly high total of 557,425, by far the largest ever attained. The grand value of exports of the automotive industry last year was \$416,782,720, an increase of 43.0 per cent over the 1924 value of \$291,-535.121.

No other industry in America enjoyed such an export business during 1925 and automotive builders have definitely placed themselves as the leaders in the overseas sales of manufactured products. With such a volume of business in 1925 and with such bright prospects for 1926 and ensuing years the industry is firmly intrenched as the chief factor in the international commerce of the country.

The survey of the export business shown below and on the pages following has been taken from the official export statements made by the Automotive, Rubber, Agricultural Implements and Electrical Divisions of the Bureau of Foreign and Domestic Commerce and the Statistical



Division of the Canadian Dominion Government. Reports of exports to the nearly 120 countries which purchase automotive equipment have been combined and summarized below.

Specifically, there were exported last year from the United States and Canada a total of 302,305 cars and 74,770 trucks. The former had an average unit value of \$703 and the trucks \$574. In addition, the overseas assembly of American vehicles in 1925 reached 180,350 units, not segregated as to cars and trucks, an increase of 26.8 per cent over the previous year.

Export Shipments by Value

Passenger Cars	1925	1924	Increase 1925
From United States	\$194 905 990	\$112,534,729	64%
From Canada	27,794,884	22,080,232	
Total Cars	\$212,690,714	\$134,614,961	50.8%
Motor Trucks			
From United States	\$ 37,703,302	\$ 19,199,344	96.3%
From Canada	5,250,002	4,429,161	18.8%
Total Motor Trucks	\$ 42,953,304	\$ 23,628,505	81.8%
Parts			
From United States	\$ 80,311,166	\$ 77,949,660	3.0%
From Canada	6,372,728	4,992,049	27.8%
Tires	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	
From United States	\$ 27,209,842	\$ 19,784,651	38.0%
Motorcycles	5,075,139	5,603,188	
ractors	27,965,593	14,727,158	89.5%
Storage batteries	2.681.288	2,882,847	
opark plugs, magnetos	2,708,142	1,911,117	
servicing appliances	5,432,220	2,841,453	91.4%
vars and trucks (Elec)	195,606	188,718	
marine engines	2,121,806	1,411,350	
riallers	281 513	201,191	
Aircraft engines—parts	783,659	798,273	
Total value	\$416,782,720	\$291,535,121	43.0%

Export Shipments by Units

Passenger Cars	1924	Increase 1925	Unit Value 1925	Unit Value 1924
From United States 244,300	151,380	61.6%	\$755.00	\$744.00
From /Canada 58,005	43,833			
Total Cars 302,305	195,213	54.8%	\$703.00	\$688.00
Motor Trucks				
From United States 58,624	27,352	114.2%	\$642.00	\$702.00
From Canada 16,146		26.6%		
Total Motor Trucks 74,770	40,124	86.3%	\$574.00	\$588.00
Branch Assemblies				
Cars and Trucks 180,350	142,346	26.8%	*****	
Total Cars and Trucks . 557,425	377,733	47.7%		
Motorcycles 22,825	16,859	35.8%	\$222.00	\$333.00
Tractors 45,938	25,221	82.4%	608.00	586.00
Storage Batteries 209,670	284,667	*26.5%	12.78	10.11
Automobile Tires				
(From United States)				
Casings	1,249,967	30.3%	\$12.91	\$12.02
Inner Tubes 1,475,460	1,104,145	33.7%	2.02	1.82
Solids 112,592	102,782	9.4%	28.23	19.18
* Decrease. (Hawaii, Porto Rico and Ala	ska not in	cluded.)		

American Passenger Car

Country	Total 1922	Tetal 1923	Up to \$500	\$500 to \$800	\$800 to \$2,000	Over \$2,000	Total 1924	Up to \$500	\$500 to \$800	\$800 to \$1,200	\$1,200 to \$2,000	Over \$2,000	Total 1925
Austria (1914-1920 ÅHungary)	\$3,035	\$57,852	\$5,831	\$11,396		\$35,246	\$123,403		\$12,754	\$25,938		\$32,452	\$100,295
Azores & Madeira Islands	\$5,480	26	\$24,067	17	9		95 \$47,537	\$38,215	26	17	-13	\$2,172	157
Belgium	4,785 \$1,836,284	4.931	261	465	729	121	1,576 \$1,665,840	2,270	797 \$554,463	1,399	594	133	\$97,684 5,193
Bulgaria	\$1,000,209	02,000,199	\$106,677 \$780	4	0	1	\$14,234	\$2,464	***************************************	\$7,372	2	••••••	14
Czechoslovakia	\$16,456	\$6,230	16	5	27		48	\$590	\$13,052	73	\$60,185	\$5,000	\$12,554 /33
Denmark	525	1,796	99	249	340	28	\$39,388 7/6	6,565 \$2,689,388	639 \$484,546	691	136	\$5,000 /3	8,044
Esthonia	\$427,885	122	\$38,674	4	1		\$692,528 5	•2,009,000	4101,010	\$3,030	\$4,852	\$42,162	6
Finland	\$3,730	496	113	\$3,339 148	117	3	\$4,171 38/ \$275,877	85 \$40,538	268 \$196,679	318	\$127,152	15	\$7,882 772
France	\$26,428 355	312	\$44,871 66	29	205	49	349	\$867	6/ \$44,246	629	239 \$354,690	\$38,838 110	\$732,629 /,042
Germany	\$377,021 46	\$314,192	\$26,899 229	369	1,530	219	\$441,126 2,347	58	934	1,330	9/0 \$1,424,675	\$286,513 388	3,620
Gibraltar	\$47,948 17 \$19,979	\$91,654 33 \$21,570	\$98,809	\$277, 297 \$3, 213	1	1	\$2,723,991 6	\$21,752 2 \$1,096	\$858	1	41,424,010	\$1,012,700	\$4,595,036
Greece	157	165 \$159,144	107	191	157	18	\$7,159 473	\$81,600	257	199	73 \$104,671	28	\$2,829 725
Hungary	\$100,856 8 \$3,407	14	\$46,744 \$490	12	41	4	\$425,302 58 \$69,143	\$2,624	\$15,388	26	\$26,497	\$74,717 3	\$661,254 73
Iceland & Faree Islands	\$4,278	\$16,050	1		1		2	\$2,024	*10,300	3	7	\$7,722	\$80,040 //
Italy	246		\$513 2,509	29	\$1,042 29	33	\$1,555 2,600	7,974	100	\$2,967 2/ \$22,320	\$9,601 /8 \$29,167	28	\$12,571 8,141
Latvia	\$133,067 100	\$654,591 90	\$703,263	\$18,357 3 \$2,182	\$35,194 24	3	\$874,673 30	\$2,366,574 7 \$2,879	\$81,130 7	28	15	\$91,798	\$2,590,989 99
Lithuania	\$47,055	\$45,871		\$2,102	1		\$35,451	•2,019	\$5,472	1	\$24,111	\$4,306	\$65,168
Malta, Gozo & Cyprus	79	\$11,667 151	6/	13	\$11,932 /5	4	\$1,932 93	114	\$1,260	16	2 2000	******	\$2,250 149
Netherlands	\$37,199 688	\$79,368 1,586	\$22,273	502	\$16,216 /,364	149	\$60,720 1,937	\$38,232	\$12,269 505	\$17,176 /,036	\$2,869 641	194	\$70,546 2,430
Norway	\$648,612 1,176	3,070		176	146	6	\$2,151,375 504	\$29,025 169	\$366,582 151	222	\$978,639 68	\$554,638 7	\$3,061,154
Poland & Danzig	20	\$1,560,890 214	\$68,023	\$117,986	\$151,797	\$16,614	\$354,420 ///	\$63,500	\$108,979 5/	94	\$98,430 54	\$18,605	\$522,204 2/4
Portugal	62	\$119,529 267	\$521 84	\$20,105 47	\$91,305 /34	\$11,500	\$123,431 270	\$2,543	\$39,162 144	330	\$75,715 116	\$25,547 23	\$240,871 964
Rumania	\$69,812 35	\$250,531 81	\$35,846 9/	\$35,591 47	\$155,612 86	16	\$238,780 240	\$165,643 29	\$110,251 82	\$355,888 213	\$175,711 62	\$56,570 /8	\$864,163 404
Russia	\$41,164 203	\$109,647 51	\$34,604 160	\$33,787	\$100,625	\$40,203	\$209,219 /6/	\$14,583 /46	\$71,462 42	\$222,908	\$89,75 5	\$49,506 40	\$448,214 248
	\$100,763 2,111	\$56,385 6,330	\$61,350 1,821	1,178	\$1,500 1,800	181	\$62,850 4,980	\$51,485 1,526	\$28,644	\$9,440 2,066	\$18,812 1,052	\$123,292 222	\$231,673 6,384
	\$1,810,067 3,063	\$4,628,283 6,744	\$728,288 405	\$867,599 926	1,360	68	\$4,244,382 2,759	\$619,582 241	\$1,185,635 1,126	\$2,209,609 1,580	\$1,650,788 353	\$643,731 78	\$6,309,345
Switzerland	\$1,859,961 255	\$4,162,801 495	\$143,427 67	\$652,493 203	660	\$179,634 6/	\$2,398,835 991	\$97,852	\$863,743 223	\$1,628,356 590	\$524,559 285	\$203,482 /66	\$3,317,992 1,281
Turkey	96	\$478,004 28	\$28,751	\$140,836 2	\$818,409 24	\$157,313	\$1,145,309	\$9,587 20	\$162,417	\$637,535 40	\$425,970 59	\$430,426	\$1,665,935 124
Ukraine	\$46,376 15	\$17,467	\$5,628	\$1,969	\$27,958	*******	\$35,553	\$9,460	\$1,788	\$40,457	\$89,449	\$8,003	\$149,157
United Kingdom	\$20,675 4,230	\$13,322 7,414	\$450 978	2,632	2,066	205	\$450 5,881	2,141	8,600	3,177	3,160	492	17,570
	85	\$4,877,772 168	\$431,961 2/	\$1,784,771 158	\$2,444,261 67	\$629,214	\$5,290,207 247	\$851,939 10	\$5,935,703 139	\$3,342,837 63	\$4,742,784	\$1,345,735	2/8
Irish Free State	\$51,187 16	\$122,170 6	\$5,247 15	\$111,900 6	12	\$3,300	\$192,918 34	\$3,050 /6	\$106,980 22	52	\$10,589 21	12	\$183,261 123
Tugoslavia, Albania & Fiume	\$8,671 12	\$6,389	\$6,737	\$3,907	\$13,107	\$2,313	\$26,064 17	\$7,662 12	\$16,846 5	\$53,739	\$30,509	\$36,151	\$144,907
	\$7,878 10,216	\$4,181 11,012	\$2,367 1,314	\$3,227 2,866	\$3,600 4,362	\$2,020 424	\$11,214 8,966	\$4,202 2,240	\$3,643 4,493	4,569	\$1,270 /,965	661	\$9,115 13,928
	\$10,569,681 30	65	\$346,752 62	36	50	\$1,219,355	\$8,448,593 148	\$555,113 /8	59	129	6	3	210
Costa Rica	\$21,264 58	\$54,771 153	\$28,400	\$24,870 94	\$53,297 215	*******	\$106,567 328	\$6,575 34	\$43,737 28	\$125,791 150	\$9,084 97	\$6,658	\$191,845
Guatemala	\$58,492 34	55	\$5,977 31	16	13		\$337,821 60	\$13,256 38	\$22,346 18	14	/	\$25,401	\$388,019
Henduras	\$22,417	\$35,177 18	\$9,634 17	\$11,099 30	\$12,494 33		\$33,227 8/	\$13,124	\$13,194 29	31	\$10,450 /7	\$3,305	\$54,674
Nicaragua	191	\$16,120 428	6,281	\$22,364 98	\$37,064 2/3	\$2,495	\$68,204 449	\$4,323 175	\$22,488 171	\$32,909 /56	\$24,218 96	22	\$83,031 639
Panama	\$160,038 57	\$398,265 119	\$55,334 43	\$69,602 67	215	13	\$388,911 338	\$67,741 /3	\$119,476 124	186	\$142,918 90	\$58,451 27	\$551,06 4#
Salvader	\$73,076 7,279	\$126,357 7,559	\$20,526 5,603	1,261	\$245,237 1,682	\$39,805 143	\$356,491 8,689	\$4,394 7,198	\$96,179 1,749	\$201,994 2,643	\$141,341 690	\$67,670 280	\$511,578 12,568
	\$4,640,801	\$4,254,866	\$1,819,208	\$847,742	\$1,828,992	\$444,021	\$4,939,963	\$2,367,609	3	\$2,656,890	\$1,001,542	\$800,278	\$8,050,1% \$2,322
Miquelon Langley etc	26	\$1,900 92	\$750 49	\$719 /5	39	2	\$1,469 105	62	\$2,352 55	44	12		173 \$134,781
Newfoundland & Labrador	\$27,379 27	\$79,404 90	\$20,111 60	13	\$45,200 29	\$4,771	\$80,644 /02	\$27,178 22	\$41,203 /0	\$48,298 24	\$18,103 8		\$33,16
Barbados	\$14,371 378	\$45,862 581	\$23,900 /36	\$10,024 /57	\$34,034 144	3	\$67,958 440	\$8,764 237	\$6,921 224	\$26,232 132	\$11,247 27	3	62
Jamaica	\$262,661 120	\$387,719 197	\$51,356 148	\$116,423 41	15	//	\$325,523 205	\$86,789 131	\$162,285 50	\$137,506 32	\$38,757 15	\$9,083 I	\$434,43 23
Trinidad & Tobago	\$64,156 175	\$99,445 166	\$57,871 86	\$29,717	21	\$3,224 2	\$106,383 /23	\$45,281 /83	\$37,439 40	\$32,007 34	\$22,073 15	\$2,250 3	\$139,00
Other British West Indies	\$124,219 1,689	\$97,226 6,003	\$29,874 5,741	\$9,259 1,028	\$24,690 893	\$8,500 252	\$72,323 7,914	\$65,904 5,543	\$27,159 980	\$34,292 841	\$22,121 363	\$9,092 308	\$158,58 8,65 4,790,66
	\$1,229,336 183	636	\$1,763,847 467	\$673,024 96	136	\$738,294 25	\$4, 195, 603 724	864	\$698,453 62	\$838,758 113	\$523,692 48	26	\$4,789,86
Oeminican Republic,	\$118,913 46	\$345,412 74	\$162,017 50	\$69,434 19	\$160,984 26	\$66,900	\$459,335 96	\$376,970 20	\$45,801 51	\$120,214 48	\$69,562 //	\$70,161	\$682,78 \$112,46 L
Dutch West Indies	\$21,831 17	\$35,122 31	\$20,050	\$12,891	\$28,642 3	\$3,742	\$65,325 9	\$6,708 25	\$34,673	\$52,237 3	\$16,348	\$2,500	3
French West Indies	\$8,801 107	\$22,609 184	\$1,952 74	\$861 72	\$3,024 7/	2	\$5,837 219	\$8,692 93	72	\$3,075 97	25	3	\$11,75 29
Haiti	\$71,528 11	\$145,859 15	\$30,446 15	\$51,105 3	\$78,893 5	\$4,900	\$165,344 23	\$38,902 20	\$55,915 5	\$98,766	\$36,547 2	\$6,914	\$237,00 1 015.55 O
Virgin ls	\$4,998 2,497	\$10,128 6,645	\$5,980 5,462	\$2,096 2,887	\$5,265 3,603	267	\$13,401 /2,2/9	\$7,981 18,824	\$3,460 5,615	\$1,000 5,363	\$2,914 1,234	462	31.0
Argentina	\$2,307,067	\$5,304,722 76	\$2,404,779	\$2,038,342 22		\$751,689 7	\$9,285,633 97	\$7,641,454	\$4,175,325 59	\$5,582,090 5/	\$1,801,983	\$1,288,230	100
Belivia	\$19,156 1,672	\$92,568 2,136	\$4,893 1.984	\$16,921 1,349	\$74,454 1,885	\$20,094	\$116,362 5,389	\$380 8,047	\$43,227 1,774	\$56,573 3,252	\$36,650 632	\$50,612 269	\$187.45 13.54
Brazil	\$1,376,552	\$1,897,416	\$640,201	\$967, 252			\$4,099,485		\$1,348,234	\$3,272,282	\$920,921	\$758,431	9,201.6

stries 926

Car

Exports from 1922 to 1925

	Country	Total 1922	Total 1923	Up to \$500	\$500 to \$800	\$800 to \$2,000	Over \$2,000	Total 1924	Up to \$500	\$500 to \$800	1925	\$1,200 to \$2,000	Over \$2,000	Total 1925
	Chile	\$107,276	\$620,446	1,446 \$328,069		\$488,806	\$258,246	\$1,197,322	\$49 \$220,260	313 \$228,728	278 \$292,114		49	1,635 \$1,104,409
ı	Colombia	\$137,241	\$316,539	\$97,796	\$87,648	\$342,224	\$54,972	\$582,640	\$193,256	309	293	265	38	1,413
1	Ecuador	\$18,816		\$34,976	\$20, 194		\$4,870	\$166,488	45	25	36	24	3	131
ı	Falkland Is			**********	*******			********					*******	*******
ı	British Guiana	\$30,987	\$41,438	\$10,363				\$37,326	\$3,212	\$6,823	18	8	2	39 \$35,348
ı	Datch Guiana	24		\$1,507		\$3,377		\$4,881	\$1,581	1		\$1,612		\$3,834
ı	French Guiana	\$1,932	\$738	\$728			*******	\$728		*******	******		******	*******
ı	Paraguay	\$1,304		\$9,371				\$38,393			\$1,008		*******	23 \$8,957
ı	Pert	\$69,613	\$434,673	\$240,686	393 \$285,210	489	\$100,392	1,543	\$200,581	\$115,880	355	98	46	1,195
ı	Uraguay	\$415,150		2,895 \$851,174	787	607	\$91,366	4,322	3,324	\$335,142	593	211	64	4,641
ı	Venezuela	\$344,190	788 \$543,480	\$279,144	242	309	47	1,314	1,049	267	763	203	64	2,346
ı	Aria— Adan	\$3,658	9			\$6,400		\$6,400	\$12,832	2	1		0172,075	\$14,977
ı	Armenia, etc.	\$13,081			*******	********	******	********	*******	********	*******	******	******	413,911
ı	Rritish India	1,079	1,998 \$1,349,253	\$331,951	1,022 \$731,785		\$36,396	2,26/ \$1,653,999	407 \$183,734	1,191 \$932,548	964 \$1,007,209			2,662
ı	Cerion	152	\$226,711	\$48,261	\$92,926	\$152,935	\$6,361	377 \$300,483	\$20,049	156 \$119,001	171	25	2	397
ı	Straits Settlements	\$132,509	\$436,385	\$102,594	195	\$237,087		634	251	662	464	61	4	\$356,648 1,442
1	Other British East Indies	1	4 130, 380	\$1,040	\$143,374 5	\$1,826	*******	\$483,055 9	\$111,262	\$489,342		\$88,932	\$10,300	\$1,176,379
	China	579 \$471,921	817 \$676,564	\$1,040 3/2 \$118,688	\$3,751 4/6	306	*20 442	\$6,617 1,045	404	423	403	85	29	1,344
	Chasen,	\$2,962	\$21,186	\$118,088 152 \$49,511	\$295,390 //	2	\$29,442	\$814,694 /65	\$151,422 7	\$304,660	\$433,419	2	\$78,681	\$1,095,488 '/6
1	- 18-31-	379	1,245	104	\$7,921 504	\$2,846 449	2 2	\$60,278 1,059	\$2,992 46	\$3,548 833	\$2,001 482	\$3,072 107	31	\$11,613 1.499
ı	Jara & Madura	22	85	\$50,507	\$368,249 /20	\$478,476 84	\$5,000	\$902,232 211	\$22,693 /2	\$642,261 /6/	\$493,853 90	\$163,293 31	\$77,819 6	\$1,399,919 300
ı	Other Dutch East Indies		\$74,802	\$3,404	\$81,771	\$91,539		\$176,714	\$6,070	\$113,653	\$92,532	\$50,083	\$15,688	\$278,026
	Far East Republic	11	\$463 42	10				10		26	4			41
ı	French Indo China	\$4,577 10	\$29,568	\$4,080				\$4,080	\$4,097	\$21,407	\$3,840			\$29,344
ı	Greece	\$3,920 7	106	287	6	26		319	443		7			450
ı	Hejaz, Arabia & Iraq	\$5,839 50	\$39,303 198	\$96,836 59	\$4,443 25	\$23,652 104	13	\$124,931 201	\$149,648 77	26	\$7,527 21	22		\$157,175 /50
78 92 81	Hangkong	\$89,180 1,271	\$181,642 3,734	\$21,233 2,289	\$19,802 6/8	\$125,082 1,148	\$41,531 92	\$207,648 4,147	\$26,700 182	\$19,226 252	\$25,219 447	\$31,727 127	\$10,505 87	\$113,377 1,095
	Japan	\$783,291 86	\$2,104,521 55	\$768,061	\$403,366	\$1,333,228	\$256,913	\$2,761,568	\$70,755 185	\$184,002 49	\$461,650 /6	\$188,469	\$239,267	\$1,144,143
ı	Kwantung	\$29,243	\$26,831 780	\$12,544 599	\$16,911 /8/	\$15,895 204		\$45,350 987	\$65,228 883	\$35,728 282	\$16,636	\$6,978 84		\$124,570
١	Palestine & Syria	\$576,528 27	\$444,405 165	\$203,404	\$131,208	\$237,487	\$6,723	\$578,822	\$302,832	\$221,101	\$220,378	\$121,596	\$15,400	\$881,307
ı	Persia	\$9,830	\$47,848 1.443	\$31,002 970		\$1,706		\$32,708	\$57,802	\$3,157	\$3,217	*******	*******	\$64,176
l	Philippine la	\$457,927	\$1,114,188	\$377,743	\$435,402	\$737,552	\$173,761	\$1,724,458	1,713 \$661,016	\$431,911	633 \$657,358	\$286,650	\$204,215	3,173 \$2,241,150
ı	Rusia			**********		\$6,152	\$11,763	\$17,915	\$2,663					\$2,663
ı	Siam,	\$32,069	\$17,993	\$8,618	\$22,250	\$10,300		\$41,168	\$8,278	\$22,170	\$6,760			\$37,208
15	Turkey	\$6,275	\$5,500	\$3,040		\$2,484		\$5,524	\$3,946	\$22,301	\$1,141			\$27,388
2	Other Asia			\$1,456				\$1.456					\$3,902	\$3,902
19	Oceania— Australia	\$8,716,930	\$20,013,471	\$5,853,192	13,900 \$8,975,224	\$11,122,518	451 1,079,159	39,564 \$27,030,093	\$6,440,928	17,231 11,658,587	11,256	1,976 \$2,965,374	\$1,222,461	48,351 34,336,234
	New Zealand	1.840 \$1,551,277	4,269 \$3,745,205	688	1,440 \$1,004,309	1.819	\$313,864	4.065	2,458 \$1,188,690	1,243 \$888,530	3,203 \$3,449,858	735 \$1,072,144	61	7,700 \$6,765,531
	Other British Oceania	\$4,821	20	\$5,216	\$11,598	\$13, 195		\$30,009	\$3,953	26 \$19,444	23 \$21,684	\$2,879		\$47,960
	French Oceania.	\$9,493	\$6,837	26 \$9,455	\$11,602	\$9,189	\$2,250	\$32,496	\$3,380	\$3,775	\$10,895	\$5,426		\$23,476
11	Other Oceania	\$11.199	\$2,645	\$1,650	\$2,956	\$3,315		\$7,921	\$1,367	\$3,022	\$2,814	\$1,541		\$9,744
56 18	Belgian Congo	\$24.732	40	\$20,201	42,800	43,310		\$20, 201	\$26,352	\$5,216	\$5,273	•1;091		83 \$36,841
352	British W. Africa	130 \$120,374	201 \$149,629	24 \$11,284	\$36,650	36 \$37,076		\$85,010	20 \$9,146	36 \$27,543	\$58,068	5	\$2,528	\$104,431
173 781	British S. Africa.	2,043	4,853	1.018	3,201	3,369	34	7,622	1,621	3,758	6,088	\$7,146 5/2	21	12,000
166	British E. Africa	93 \$70,459		290	\$2,322,970	173	\$93,631	\$6,443,944 583	287	109	\$6,512,972 365	\$738,501 30	2	10,872,619
63 48	Cenary la	106	\$145,504 172	\$128,656 47	\$81,553 52	\$184,727 124	\$13,241	\$408,177 224	\$139,428 24	\$78,447	\$395,320 77	\$42,483 3/	\$7,610 5	\$663,288 190
13	Earpt	37.4	219	\$20,457 158	\$37,402 ///	\$138,019 38	\$3,299 2	\$199,177 309	\$10,422 284	\$41,671	\$83,318 /69	\$45,880 17	\$14,129 9	\$195,420 579
25 50	Algeria and Tunis.	\$179,881 45	\$133,165 84	\$71,408 28	\$77,776	\$38,801	\$7,381	\$195,366 29	\$104,501 37	\$73,667 6	\$172,298 14	\$25,541 10	\$24,436	\$400,443 67
8,655 0,966	Other French Africa.	\$17,368 50	\$31,151 121	\$9,680 131	\$542 23	2		\$10,222 /56	\$11,916 227	\$4,018 33	\$15,223 /2	\$14,917 2		\$46,074 274
TI I	Italian Africa	\$21,092	\$49,092	\$43,080 6	\$17,499	\$1,616	******	\$62, 195 6	\$73,194	\$23,951	\$10,734	\$2,843	*******	\$110,722
11 4	Liberia		*******	\$2,310	********		*******	\$2,310	3	4	2	4	******	13
1	Liberia	\$685 128		\$1,586 198	30	\$1,595		\$3,181 23/	\$1,286 5/8	\$2,338 23	\$2,016	\$5,761		\$11,401 570
7	Merseco,	\$62,740	\$61,934 42	\$74,695 44	\$22,134 79	\$3,024		\$99,853	\$188,167 44	\$16,176 57	\$19,728 100	\$12,953	\$2,116	\$239,140 201
1,04	Portuguese East Africa	\$16,931	\$29,909	\$18,051	\$52,740	\$42,795		\$113,586 89	\$15,454	\$43,791	\$115,700 12			\$174,945 //6
15,25 31,60	Other Portuguese Africa	\$35,956	\$38,226	\$26,577	\$17,180	\$5,431		\$49,188	\$15,855	\$47,840	\$12,864		******	\$76,559
A.B.	Spanish Africa	\$21,460	\$16,256	\$9,130	\$10,370	\$4,065	*******	\$23,565	\$18,673	\$8,815	\$3,041	\$2,921	*******	\$32,450
13.56 13.56														
201,6	Totale	66.791	127.035	59.175	42,406	46,256	3.543	151,180	100,227	60,437	59.847	18.562	5,215	244,288

American Truck Exports

Country		1923		Total		1924		1		1925		1
Country	Up to 1 Ten	1 to 21/2 Tons	Over 2 Ten	1923	Up to 1 Ton	1 to 2½ Tons	Over24Ten	Total 1924	Un to 1 Ton	1 to 21/2 Tons	10	Tetal 1925
Anath (Din a top t							1		Op to 1 1on	1 to 272 1 ons	OverZ½ I on	
Austria (Prior to 1920 A. Hungary)	\$531	********		\$531								
Aseres & Madeira Isl	\$3,450			\$3,450	*0 999				35			37
Belgium	3,955 \$954,277	2		3,957	25	2		\$2,337	\$18,144 2,262			\$20,074
Bulgaria	\$954,277	\$2,068		\$956,345	\$15,029	\$2,212	\$10,00	0 \$27,241	\$878,837		\$2,03	2,269 \$889,005
Czechoslovakia									\$3,161	\$1,988		\$5,149
Denmark	14	34								\$1,405	********	\$1,405
Esthonia	\$7,434	\$34,089		\$41,523	\$6,183	\$34,078	\$9,23	5 0 \$49,491	3,/75 \$1,282,638	61	\$20,908	3.246
Finland.	\$21,229	\$1,700		\$22,929		*******			***********	********	420,300	\$1,382,927
	\$93,390	\$1,275		354 \$94,665	\$23,903	3		. 52	29	44	*******	73
France	\$11.557	1	1	19	6			\$28,828 6	\$25,016	\$54,345	*******	\$79,361
Germany	1	\$1,426		3	\$2,642	30		\$2,642	\$1,969 369			\$2,948
Gibraltar	\$428		\$5,000	\$5,425	\$9,815	\$31,689	\$11,43	\$52,935	\$213,922	\$202,056	\$2,403	\$418,381
Greece.	\$1,680		********	\$1,680		\$1,111	*******	\$1,111			*********	********
Hungary	\$393		********	\$393	\$8,083	\$16,832		\$24,915	\$21,712	\$52,669	\$3,104	68
Iceland & Farce Isl.	********				*******	*******				1	Φ0,109	1
		**********							********	\$2,453	********	\$2,453
Italy	509 \$144,167			509	2,513	********		2,513	7,218	\$1,110 205		\$1,110 7,423
Latvia	35	1		\$144,167 37	\$638,002	********	********	\$638,002	\$1,823,081	\$51,722	********	\$1,874,803
Malta, Goso & Cyprus	\$0,289 11	\$1,750	\$2,325	\$13,364					\$3,169	\$3,018		\$6,187
Netherlands	\$3,466 32	***************************************		\$3,466	\$505	*********	********	\$505	\$395	*********	********	\$395
Nerway	\$14,648	\$3,106		\$17,749	\$22,783	\$30,063		\$52,846	\$20,862	\$186,553	\$64,077	170
	\$154,919	\$42,606	\$12,298	\$209,823	\$7,476	\$22,346	\$5.04	27	\$39,211	61	8	107
Poland & Danzig	\$1.083	*******		\$1,083	\$860	1	40,020	2	4	\$81,679 15	\$15,400 2	\$136,290 2/
Portugal	\$3,808			9	6	\$1,424		\$2,284	\$2,791 43	\$21,117	\$4,178	\$28,086
Rumania	•0,000	*******	********	\$3,808	\$1,533 8	\$500	*******	\$2,033	\$19,564 /2	\$10,360		\$29,924
Russia	58	*******		59	\$4,000 77	50		\$4,000 /27	\$6,000	\$2,120	********	\$8,120
Spain	\$25,585 1,078	32	\$4,441	\$30,026	\$29,469 561	\$20,400	*******	\$49,869	\$202,152	\$1,318	\$97,518	\$300,988
Sweden	\$253,213	\$30,114	\$7,146		\$192,446	\$77,036		\$269,482	1,216 \$460,253	\$181,205	\$2,574	1,374 \$644,032
Switzerland	1,628 \$482,517	\$117,791	\$37,692	1,765 \$638,000	\$441,050	\$77.945		1,398 \$518,995	\$128,852	138	2	265
	********		********		\$5,119			10	4	\$142,516 /	\$2,136	\$273,504 5
Turkey	********				***********			\$5,119	\$1,864	\$1,154		\$3,018
Ukraine	61		********	61		********	********					********
United Kingdom	\$22,723 605	432	46	\$22,723 1,083	\$500 377	303		\$500 688	2 6 42			*****/***
Irish Free State	\$271,219	\$406,550	\$69,863	\$747,632	\$244,480	\$318,043	\$14,900		3,643 \$1,719,855	\$741,383	\$62,699	4,327 \$2,523,937
Yugoslavia, Albania &	\$520	\$795		\$1,315	\$610	\$10,063		\$10,673	\$13,336	\$4,613		\$17,949
Fiume	\$1,200		********	\$1,200			******	*******	\$475			1
	\$687		********	\$687	\$786	\$7,618		***	6		27	\$475 33
Canada	\$216,302	\$7.6 \$1,166,672	\$522,608	1,358	460	860	109	\$8,404 1,429	\$2,631 4/8	1,231	\$123,227 161	\$125,858 /,8/0
Costa Rica	\$1,224	4	***************************************	7	\$322,553 10	\$1,222,502	\$326,415	\$1,871,470	\$320,279 27	\$1,726,864	\$521,674	\$2,568,817
Guatemala	6	\$6,156 3	********	\$7,380	\$4,502 16	\$6,315 /8		\$10,817 35	\$13,682 39	\$30,408	\$1,645	\$45,735
Henduras	\$2,358 15	\$2,874		\$5,232 19	\$8,335 29	\$24,602	\$2,000	\$34,937	\$24,724	\$150,940	\$4,600	\$180,264
Nicaragua	\$6,798	\$1,801	\$14,345	\$22,944	\$11,392	\$907	\$14,147	\$26,446	\$12,840	\$7,795	\$12,888	\$33,523
Panama			********	********	\$1,032	\$2,885	\$4,255	\$8,172	\$1,130	\$6,251	\$22,499	\$29,880
	\$23,312	\$17,779	\$9,386	\$50,477	\$39,511	34 \$42,644	\$5,150	\$87,305	140	42	022,199	182
Salvader	\$727	*******	\$11,513	\$12,240	2	5	8	15	\$68,318 /2	\$71,887 26	35	\$140,205 73
Mexico	780 \$354,151	178	53	1,011	\$1,010 1,158	\$8,392 2/3	\$38,208 22	\$47,610 1,393	\$7,914 3,097	\$38,011 394	\$118,108 78	\$164,033 3,569
Miquelon, Langley, Etc	4004,101	\$184,223	\$122,919	\$661,293	\$485,995	\$279,524	\$63,023	\$828,542	\$1,162,669	\$489,743	\$319,543	\$1,971,955
Newfoundland &	4	**********			\$600			\$600	\$550			\$550
Labrader	\$1,750 13			\$1,750	\$1,500	\$1,936		\$3,436	\$2,586	\$5,228	\$69,302	\$77,116
Jamaica	\$4,725	\$5,462	\$500	\$10,687	\$14,310	\$1,812		\$16, 122	\$710	\$11.186	\$4,386	\$16,282
	\$62,795	\$69,529	\$2,705	\$135,029	\$47,949	\$37,440	\$10,367	148	166	39	3	208
Trinidad & Tebago	\$12,351	\$3,005	\$3,271	37 \$18,627	46	13	3	\$95,786 62	\$59,590 15	\$54,372 16	\$7,531	\$121,493 3/
Other British West Indies	\$17,425			47	\$20,215 32	\$23,869	\$10,994	\$55,078 34	\$10,385 76	\$18,986 10		\$29,371 87
Cuba	743	52	16	\$17,425 811	\$12,956 1,375	\$3,517 73	30	\$16,473 1,478	\$31,804 /,782	\$15,068	\$2,307	\$49,179 2,148
Dominican Republic	\$215,467 26	\$77,344	\$52,133	\$344,944	\$359,864 109	\$104,811	\$98,817	\$563,492	\$535,341	\$284,362	\$451,513	\$1,271,216
Outch West Indies	\$11,120 17	\$7,845	\$24,002	\$42,967	\$48,224	\$20,453	\$31,991	\$100,668	\$63,401	\$21,194	\$106,983	\$191,578
rench West Indies	\$5,999	\$100		\$5,099	\$15,875			\$15,875	\$16,627	\$2,197		\$18,824
	\$364			\$364	\$2,486			7	22	\$2,197		22
faiti	\$3,942	13	2	23	35		2	\$2,486 48	\$8,129 80	49	16	\$8,129 145
Irgin Ia	1	\$26,152	\$4,465	\$34,559 1	\$16,830	\$15,915	\$6,800	\$39,545	\$37,305	\$59,400	\$24,705	\$121,410
egentina	\$500 95	63	30	\$500 188	245	177	186	*******	\$2,692			\$2,692
olivia	\$93,765	\$100,926	\$84,144	\$278,835	\$179,886	\$307,321	\$495,048	\$982,255	\$590,869	\$731,205	\$428,743	\$1,750,817
	\$324	*********		\$324	\$8,704	\$6,430	\$19,760	\$34,894	\$19,197	36 \$56,716	\$11,456	\$87,369
								531,301	410,101	430,710	411,430	Anilona
				-	-			1			1	

from 1923 to 1925

Country		1923		Tetal 1923		1924		Total		1925		Total
	Up to 1 To	n 1 to 2½ Ton	Over21 Ten	te	Up to 1 Tec	1 to 21/2 To	ons Over21 T	1924 ons	Up to 1 Ton	1 to 2½ Tens	Over21/2 Ten	1 100
Brazil		7		. 27	1,64		24					
Chile	\$7,00			\$7,021	\$437,14	5 \$33,3	52 \$20,	6 1,67 307 \$490,80	4 \$1,674,034			
Celembia	8961 00	\$80,42	\$21,62		\$420,95	7 \$243,5	62 80 \$89,:	37 1,27 209 \$753,74	2 1,112 6 \$424,829	349	13.	7
Ecuador	\$30,52	\$42,10	\$95,81	5 \$168,444	\$69,32	\$105,3	66 22 \$91 ,	23 25	2 48	317	2	91
alkland Islands	\$14.80	82,48		\$17,295	\$44,02	*	6	1 12	1 84	14		/
ritish Guiana	844	0		\$440						10,020	\$1,17	4 - \$5
outch Guiana		\$1,04		\$1.047	\$71	\$3,4	3 52 \$2.0	36,16	6 \$584	6		
					********					\$6,509	*******	. 8
rench Guiana	\$1.03	3	********	\$1,033	\$2,27			***			********	
araguay					\$3,660			\$2,270	/ 83			. 8
eru	\$143.07	4 43 1 874,320	\$22,52	\$ \$239,919	769	3.		20 \$3,660	797	612	4	\$2
ruguay	2185 28	4	1	580	1,208	3	24	15 \$815,718	\$328,323	\$776,747	\$139,62	1,24
enemela	15	1 6	10	167	\$323,323 354		56	19 \$400,33	\$338,980	\$77,707	\$83,70	
ion	\$56,40	\$16,302	\$47,720	8120,431	\$171,734	\$103,0	\$83,9	\$358,760	\$285,029		\$108,14	\$699
ritish India			20		\$1,400 222		00	2 \$4,400			********	8
rylen		3 39	1	\$196,744	\$169,101 108	\$119,3		00 \$292,481	\$584,102	\$278,255	\$31,557	\$803
raits Settlements	\$26,06	. 4	\$1,182	\$82,877	\$98,490		\$5,0	14 \$306,420	\$187,392	\$299,011	\$60,388	51
ther British East Indies.		\$8,653	\$2,665	\$11,318	\$1,605	\$3,71	\$2,6	65 \$7,980	\$19,039	3/	857,414	
Mne					********	*******			*******			
besen	263 30		\$27,950	\$103,921	\$94,708		15	\$139,393	\$207,266	174 \$181,828	\$17,304	*404
va & Madura			********	********	\$4,840			\$4,840		*101,020	•11,304	\$406
ther Dutch East Indies.		\$5,664	\$3,000	\$8,664	\$972	\$17,07	6 2 \$2,2	2 20	23 \$14,483	60	***************************************	
		\$4,592	*********	\$4,592	\$2,532	1	3	15	10	\$67,085 48	\$8,676	
onch Indo China	\$3,759		*******	\$3,759	\$1,780	*******		\$16,338	30	\$50,604		\$57
***************************************					*********	*******		\$1,780	\$10,853	*******	********	\$10
jaz, Arabia & Iraq	*********	********	*******	********	********	*******					*******	*****
ongkong	\$24,816	912 152	1 1	63	92	*******	7	2 101	\$328 87	\$3,100		\$3,
pan	\$1,503,423	641	\$10,000 336	\$47,969 5,111	\$42,699 2,762	\$11,49 /6	4 12		\$34,338	\$9,458	\$15,300	\$59,
rantung	32	6	\$866,249	38	\$1,118,742 35	\$281,45	\$369,04		\$15,957	\$37,127	\$40,343	\$93,
lestine & Syria		\$2,184		\$13,984 18	\$16,722 27	\$2,93	5	\$19,657	\$29,753	\$11,731		\$41,
raia	\$5,696	\$2,156	*********	\$7,852	\$11,822	******		\$11,822	\$29,526	\$15,530		\$45,
ilippine Islands	\$362 325	20		\$362 346	644	68			\$871		\$27,825	\$28,
m	\$137,369	\$28,967	\$2,000	\$168,336	\$261,239	\$91,980		8 \$367,587	\$393,541	\$216,546	\$43,373	\$653,
rkey			********			*******				\$2,090		\$2,0
stralia	902			********	\$2,960	********		. \$2 960			\$10,800	\$10,
w Zealand	\$744,560	\$1,224,545	\$442,730	2,046 \$2,411,835	\$777,473	\$1,605,688			5,786 \$3,009,918	1,391 \$1,750,549	372	7,
ner British Oceania	\$164,285	\$342,528	\$162,547	\$669,360	\$202, 190	\$419,760	10	575	607	683	\$1,193,074 95	\$5,953,8
	\$2,327	*********		\$2,327	\$5,352	\$4,598		. 11	\$405,713 /0	\$880,008	\$211,976	\$1,497,6
nch Oceania	\$801	\$2,350	\$6,000	\$9,15	\$3,836	\$3,500		\$9,950	\$4,825 5	\$5,977		\$10,8
er Oceania		********	******		3	*******	\$1,00	. 3	\$2,113 2		\$3,900	\$6,0
gian Kongo	\$3 \$29,592			83	\$1,270 63	*******		\$1,270 63	\$760 377	\$1,085		\$1,8 3
tish West Africa	267	92	*******	\$29,592 359	\$21,880 222	354	*******	\$21,880 576	\$130,500 369	\$1,091 775		\$131,5 /,/
ish South Africa	\$229,690 68	\$96,913 33	2	\$326,603 103	\$204,019 /3/	\$382,741 89		\$586,760	\$356,874 257	\$820,620 250	18	\$1,177,4
ish East Africa	\$59,636 3	\$43,345	\$5,980	\$108,961	\$100,833 29	\$119,258 2	\$21,24	\$241,335	\$205,228 386	\$323,892	\$39,345	\$568,4
ary Islands	\$1,852 35	\$2,000	7	\$3,852 46	\$15,872 /5	\$3,954 15	\$10,000	\$29,826	\$209,994	\$56,218	\$6,127	\$272,3
#	\$16,822 2	\$4,711	\$11,367	\$32,900	\$8,676 /5	\$15,683	********	\$24,359	\$11,274	\$9,012	\$1,946	\$22,2
ria and Tunis	\$ 924			\$924	\$7,626	\$1,632		\$9,258	\$10,521	\$12,437	\$15,000	\$37,9
Franch Africa	\$1,904		********	\$1,904	\$2,856	14	*******	\$2,856	\$2,828			\$2,8
an Africa	\$10,638	\$1,027	*******	\$11,665	\$54,072	\$16,086	*******	\$70,158	\$225,822	\$56,428		\$282,25
ria		********		*********	********	*******	*******		********	\$7,873		\$7,87
9000	\$450	********		\$450	\$1,594	********	********	\$1,594	\$3,955	\$2,854		\$6,80
	\$7,344	********		\$7,344	\$16,296	\$2,084		\$18,380	146	10	10 278	15
uguese East Africa :	\$3,229	\$30,400		\$33,629	\$11,265	\$3,000		20	\$59,046 43	\$11,573 17	\$2,376	\$72,99 6
er Partuguese Africa	\$14,320	\$2,100		\$16,420	177, 136	\$7,192	*******	\$14,265 205	\$13,759 33	\$12,889 22		\$26,64
nish Africa		1		1	6	\$7,192		\$84,328 6	\$11,724 30	\$19,283		\$31,00
	********	\$1.034	•••••	\$1,034	\$2,400		*******	\$2,400	\$13,756			\$13,75
Totale	10.50		1									
	\$7,325,177	\$5,233,203 1	1,092	24,859 15,317,136	20,652 8,408,313	5,209	1,491	27,352 \$19,199,344	46,5/4	10,423	1,699	58,63
					- 1 TOO O LO	11,004,010	*O. (UD. U.S.	g.7,175,039 3	II WU.GEP.VII	10.010.930	\$5,249,016 \$	37 7116 114

37 0,074 2,269 9,005 9,005 9,15,149 1,145 3,246 12,927 73 77,361 3,49 18,381

1926

rts

\$2,453

\$1,110 7,423 74,803 8 \$6,187 71,492 107 36,290 21 128,086 55 129,924 13 \$8,120 800,988 1,374 44,032 265 273,504

\$3,018 4,327 523,937 25 \$17,949

\$475 33 125,858 1,810 568,817 \$45,735 180,264 35 \$33,523 \$29,880 140,205 73 164,033 3,569 971,955

\$550 28 \$77,116 9 \$16,282 20,28 \$121,493 31 \$29,371 \$49,179 2,148 2,271,216 194,579 \$18,224 \$8,129 \$1,824 \$121,410 7 \$2,692 \$1,881 7,750,817 7,887,366

Europeir Austra August Austra Belgig Canaca Belgig Canaca Belgig Canaca Belgig Canaca Canaca

American Exports of Automotive Parts, 1913-1925 (Engines and Tires)

	1913-1914	1914-1915	1915-1916	1916-1917	1917-1918	July - December 1918	1919	1920	1921	1922	1923	1924	1925
Europe: matria (Prior to 1920 A.Hungary)	\$5,198	\$1,045		.,,,,,	******		\$825	\$363 4 555	\$2,931	\$1,538 4,039	\$3,441 3,091	\$3,353 3,651	\$17,331 11,648
zeres and Madeira Islands	1,384 20,978	1,800 446	\$1,532	\$1,270	\$198 906	\$1,600	1,909 141,974	4,555 334,422	4,173 145,056	404,518	1,497,325	7,547,100 2,928	2,758,688
ulgaria. sechoslovakia.	390						307	1,399	901 182	1,328 5,620	2,372	11,766	11,190 22,017
	8,664	13,710	31,886	53,917	6,048		472,376	3,111,296	1,842,018	2,022,712	3,413,222 2,790	7,956,309 2,377	4,242,708 1,632
ethenia, inland, rance ermany, ibrattar,	2,931	1,178	5,627	55	2 000 004	2 180 690	12,137 1,966,719	24,787 3,980,079	22,154 1,099,683	4,206 2,141,907	12,671 2,869,137	24,914 4,449,883	92,313 4,436,612
rance	179,351 213,351	480,764 13,770	2,216,823	3,700,812	3,999,904	3,158,628		4,972	20,917	15,784 4,237	11 310 3,899	148,146 3,008	714,361 5,503
ibraltar	514 807	229 2,010	617 24,724	525 12,604	4,675	13,415	102,715	6,033 114,275	7,559 80,340	46,565	38,786	81,674	142,574
lungaryceland and Faree Islands	807		******	2,608	2,757	*******	13,661	11,903	300 15,085	4,019	2,047	1,888 5,112	13,407 9,669
Aly	00,000	65,521	456 115,260	180,977	99,947	26,195	100,078	372,288	143,161 330	76,640 4,486	387,556 3,213	730,983 2,763	1,029,846 3,045
atvia.										276 9,528	5 341	1,199 9,516	1,174 9,571
Malta, Gozo & Cyprus Islands Jetherlands	7,634	3,055	41,525	96,200	3,625		136 286,540	6,822 457,966	9,718 203,377	95,975	212,564	838,921	802,149
orway	1,893	15,607	59,769	109,542	18,855		385,508	515,795 28,359	200,547 50,524	111,129 1,736	215,990 74,313	152,679 74,496	187,639 62,422
lorway. oland and Danzig ortugal	2,357	3,239	45,356	66,929	20,274		58,031 85,087	176,367 44,061	36,189 42,774	30,225 17,437	37,996 20,018	46,752 30,462	84,744 64,816
umania	001	123,667	391 2,498,879	1,624,431	328,633		510	13,733	2,690	28,518	23,639 2,726,743	54,310 1,805,290	213,136 1,495,837
		7,347 4,211	32,743 37,917	95,720 26,891	154,850 4,032		227,977 64,535	3,238,719 472,007	799,893	1,337,251 205,018	379,904	508,568	722,424
pain. weden witzerland	6,140 1,069	400	1,150	565	54		28,177 83,178	119,692 103,977	53,074 39,741	26,288 30,929	33,415 9,253	60,977 16,903	82,374 40,570
urkey		267	******	******						4,175 3,637,101	6,241 4,341,594	2,058 4,326,764	5,344,252
Inited Kingdom	1,305,657 250	3,312,376 208	7,254,889 7,181	6,143,357 1,264	6,330,069		16,481	22,569,843 62,356	7,432,193 53,423	89,677	575, 145	537,095	270,580
rish Free State			4,932			1	350	808	10,184	13,024	8,034	5,085	15,912
North and South America;	163	684	548	1,379		1,839	6,183	10,090 22,814,873	3,723	3,541 17,045,083	3,170 18,635,289	3,909 15,999,001	5,682 28,206,429
ritish Honduras	3,663,879 6,208	2,741,178 5,041	7,492,639 10,162	9,148,110 7,498	23,613	1,924	8,217	20,024	12,303	14,264 21,956	13,568 19,850	26,582 33,812	28,198 75,772
iuatemala	1,613 1,053	732	2,367 15,649	9,852 12,639	9,111		20,078 19,884	47,260 48,566	39,161 34,560	28,368	27,377	27,671	36,146
londuras	47	609	666	964	2,264	4,894	26,930 88,546		10,203 123,292	2,324 69,781	4,563 120,629	13,645 127,892	16,907 143,547
anama	16,988 2,481	2,371	34,180 3,717		10,179	4,206	43,915	59,020	18,394 1,528,729	18,163 902,812	29,091 938,287	38,254 1,007,132	66,169 1,565,032
Mexico Miquelon, Langley&St.Pierrels	41,508		42,258	5	6	5 29	279	69	12	48	10	167	166 23,630
Newfoundland and Labrador	3,901	3,632	8,672 6,383						19,018 31,343	19,057 20,134	24,320 19,236	29,218	32,113
Barbades	24,693	32,337	53,867	54,854	65, 42	9 22,071	92,521	196,662 175,810	151,667 116,594	92,912 64,289	135,090 63,640		182,932 71,983
lamaica Frinidad and Tebage Other British West Indies	13,003 2,538	3,707	21,826 9,303	12,868	21,44	6 7,706	38,299	40,649	32,036	30,887 724,137	36,762 1,030,722	37.712	
Cuba Dominican Republic	20,21	101,429	411,731				88,744	218,212	1,527,363 124,582	113,699	112,099	141,264	180,435 23,069
Outch West Indies	2,754 8,099	4,598	3,288	6,052	4,70			8,913 68,754	16,188 37,812	14,046 20,355	12,450 16,179	14,480	19,717
French West Indies	1,09	5 185	3,28	3,962	24,38	5 7,949	49,922	68,92	39,492 27,867	40,049 8,123	84,201 8,723		
Haiti Virgin Islands of U.SArgentina Bolivia	1,20 92,63				3,088,53	4 706,571	3,753,370	7,265,651	3,658,276	3,357,170 11,502	6, 198, 477 11, 537	7,561,022	
Belivia	1,20 84,60	2,880	3,453			3 4,891 4 103,834	18,519 806,556	3,144,122	13,029 522,825	996,003	2,620,599	5,501,489	5,076,652
Brazil	22,40	5 14,721	72,93	248,04	806,01	5 359,668	586,031		168,605 121,611	119,791 93,637	261,889 151,872	259,607	426,620
Colombia	6,32	4 4,458	8,014	12,64	12,96	4,251	21,949	50,384	36,582 34,015	18,002 15,799	16,223 19,284	34,774	42,831 21,772
British Guiana	4,08		6,809	23,59	3,28	1,872	5,511	15,503	9,575	8,330	2,162	2,891	4,145
French Guiana			32	1	1 2,33	17	307		9,369	715 176	2,868 4,701	5,554	8,669
Paraguay	5,98	2 4,72	7 5,45	27,33	88,09	8 61,92	173,348	474,832	227,387 202,050	102,970 163,136	218,140 277,041	321,328	547,709
Uruguay	21,40 36,28									83,744	115,80	168,439	349,334
Asia: Aden	1			8 4,54	1 26	33	7,57	12,344	8,025	2,842	5,08	4,144	
Armenia	47 00						493,18		549,954	826 314,839	329,83		693,357
Caylon.										17,158	26,99	7 56,944 3 242,465	507,124
Straits Settlements Other British East Indies	25,10 4,09	9 4.06	2 8,54	0 27,71	0 23,27	73 4,10	0 13,31	95,321	24,740	66,328	96,08	1,52	1,930
China	. 0,82	5,26	5 21,66	1 54,75						96,934 4,835	46,68	9 53,51	8,598
Chosen Java & Madura Other Dutch East Indies Far Eastern Republic	15.00									157,442 22,914		7 50,89	91,979
Far Eastern Republic	15,36								300	862 8,555	12	1 12	
French Inde China			1						1,154	2,650			00 00
Greece in Asia	62					02 9,76	27,27	7 44,33	13,904 21,106	25,580 28,090	36,94	3 42,65	68,91
Hengkeng	35,63	26,02	8 30,44	6 116,13	0 319,0	38 235,31	7 719,46	624,80	551,981	456,386		8 1,149,02 0 15,85	7 10,82
Kwantung				6 1,74		72 55			47,941	119,310	95,71	6 103,31	6 120,975 1 5,26
Persia	69,93	17			1,0		0 27 9 600, 64	859,39	365,989	209,646	209,64	369,24	9 538,17
Russia		107,35	226, 25	55 146,08	33 25,5	12	. 194,61	3 18,26 9 13,90	4,233 19,662	7,01	5,82	7,22	5 12,35
Siam. Turkey. Other Asia.	4,9	2,45 67 21				9 77	5,55	63,22	85,153	121	4,22		7,87
Other Asia							1			1 044 80			3 497,40
Oceania: Australia New Zealand Other British Oceania	202,3					58 243.46	38 529,00	1,725,74 0 1,179,08	0 1,033,010 7 452,840	330,04	594,45	831,34	5 1,024,83
Other British Oceania	1,0	60 66	1,9	91 4,7	51 4,6	74 2,71	8,33 5 9,90	10,46	1 7,796	4,52	6,76	13, 57	4 13,69
Other Oceania	6,0	60 5,73		10 4,33 66 93	36 7,1	38 2,1	7,96						13,97
Africa:											11		
Abyzsinia				34			7,8				5 146,20	130,28	207.74
British Africa { West South East	5,7	46 100.24	40 286,4	01 422,2	00 811,3	23 195,7	4 878,7	23 1,624,43	8 425,93	336,72	0 574,33	936,57	0 151,18
Canary Islands	3,2	03 3,9	29 11,3	71 9,5 11 3,2			1,0	18 23,53	8 38,48	58,37	7 33, 1	90 49,35	69,60
Egynt	. 1	30 1,4				716	07 0		2 129,36		0 1,5	10,3	6 8,47
Algeria & Tunis Other French Africa	2	00 2,6	60 2,4			1	46 , 64,2			21,06	1 35,1		
Kamerun. Italian Africa	9		22 21,0						. 42:			62 59	32 3,4
Liberia			13		33 1	106	40	66 10	6 1,13	5		5	19 48.48
Madagascar. Merecce. Pertuguese East Africa	i	66 3,3				347 1,3	50 48,4				3 46,8 8 10,6	30 26,4	35 47,33
Portuguese East Africa Other Portuguese Africa	1.5	85 3,4		64 5,3	39 1,1	160 7	03 2,5			3 20,97	6 18,0	34 24,8	
Spanish Africa			03					35	33		9.0	AU. 0	-

American Tire Exports from 1923 to 1925

Countries		1 9	2 3			192	: 4	I		19:	2 5	
	Casings	Inner Tubes	Solid	Total	Casings	Inner Tubes	Solid	Total	Casings	Inner Tubes	Solid	Total
ope: ustria	\$20,618	\$2,348	\$480	\$23,446	\$12,216	\$1,611		\$13,827	\$29,816	*4 999	010.011	***
seres and Madeira Islands	3,154 104,382	509 8,789	010	3,663	3,740	440		4, 180	3,400	\$4,232 223	\$13,911	\$47,95 3,62
elgium	1,110	253	210 129	113,381	218,945 2,007	20,563 421	\$703	240,211	451,893 4,084	61,061	2,214	515,16
zeschoslovakia	7,391	515	265	8,171	5,666	297	1,091	7,054	135,624	1,156 19,448	46,991	5,240 202,06
enmarksthenia	569,318 11,725	61,695 1,935	16,145	647,158 13,660	601,378 4,604	64,861 267	33,451	699,690 4,871	864,555	131,146	31,688	1,027,38
inland	56,529	7,714	1,108	65,351	102,133	17,031	954	120, 118	4,071 152,748	608 21,885		4,67 174,63
rance	81.964 52,551	5,206 5,362	2,965 659	90,135	170,695	16,979	2,440	190, 114	464,690	62,582	2,849	530,12
ibraltar	238	0,302	68	88,572 306	28,977	4,039	3,436	36,452	304,648	43,238	806	348,69
reace	91,758	12,611	22,949	127,318	54,712	9,319	45,894	109.925	178,010	42,762	63,614	284,38
ungaryelands	5,640 8,332	584 1,657	165	6,224	5,827 9,847	1,135 1,630	********	6,962 11,477	6,855	1,585	56	8,49
aly	163,307	15,602		178,909	100,146	10,708	1,409	112,263	16,184 68,391	2,604 19,553	5,848	18,78 93,79
atvia	4,036 4,561	3,087	9,907	17,030 5,308	9,305 2,745	2,304		11,609	24,860	4,174	346	29,38
thuania	5,605	526	288	6,419	8,098	683 668		3,428 8,766	2,679 4,936	481 189		3,16 5,12
etherlands	184,864	19,740	5,301	209,905	237,740	36,053	11,650	285, 443	487,266	51,329	5,825	544,42
orwayland and Danzig	350,548 6,633	40,040 1,224	44,197	434,785 7,919	241,745 17,924	29,532 2,964	35,254	306,531 20,888	351,353	35,895	41,621	428,86
rtugal	29,840	2,227		32,067	50,441	29,261	1,218	80,920	62,202 71,475	13,259 18,123	1,899 4,720	77,36 94,31
amania	20,145	3,075	4,268	27,488	8,119	1,337	784	10,240	24,587	7,121	590	32,29
ussia	3,621 287,056	3,089 26,660	13,494 97,949	20,204 411,665	15,674 182,928	2,291 23,539	73,937	17, 965 280, 404	42,681 414,118	11,616	16,728	71,02
reden	617,106	57,031	24,441	698,578	712,078	77,560	28,353	817,991	960,983	56,839 96,076	102,181 41,155	573,13 1,098,21
itzerland	64,793 7,012	6,250	448	71,043	103,054	12,699	451	116, 204	150,191	20,170	1,891	172,28
arkeykrainekraine	734	356 567	415	7,783 1,301	30 3,124	81 94	********	3,218	2,588	1,058	31	3,67
nited Kingdom	2,836,598	282,604	646,640	3,765,842	1,954,305	175,812	840,571	2,970,688	2,195,481	208,437	566,762	2,970,68
ish Free Stateugoslavia, Albania and Fiume	53,474	7,802	********	61,276	14,477	2,469	1,313	18, 259	24,325	3,739		28,06
ugoslavia, Albania and Fiume th and South America:	20,666	4,038	456	25,160	3,338	641	120	4,099	25,273	10,217	4,736	40,22
ritish Honduras	2,270	497	30	2,797	1,988	365		2,353	2,404	731	55	3,19
anadaliquelon, Langley, etc	733,014	54,035	89,922 172	876,971	555,692	73,436	106,059	735, 187	344,982	52,438	41,755	439,17
ewfoundland and Labrador	21,711	3,297	189	25, 197	19,422	3,094	698	23, 214	24,175	4,098	1,244	29,51
esta Rica	15,898	2,063	1,512	19,473	20,963	2,361	1,946	25, 270	30,326	3,516	920	34,76
uatemalaonduras.	20,096 $20,779$	2,278 2,222	466 8,645	22,840 31,646	24,676 23,828	4,016 3,066	524 12,368	29, 216 39, 262	56,295 25,000	9,159 4,098	482	65,93
caragua	7,634	989	803	9,426	7,644	2,319	1,012	10,975	14,549	2,943	14,436 534	43,53 18,02
nama	112,055	13,151	11,177	136,383	136,817	17,648	11,064	165,529	201,346	31,142	18,190	250,67
lvader	37,405 780,020	5,982 113,883	4,776	48,163 937,459	44,808 989,103	8,997 166,914	4,848 65,202	58,653 1,221,219	62,880	11,807	9,816	84,50
arbados	8,783	1.301	1,293	11,377	6,230	850	837	7,917	1,058,361 6,427	177,096 973	62,508 2,059	1,297,96
maica	81,284	12,170	13,664	107,118	45,424	6,564	14,506	66,494	22,779	2,365	13,661	43,80
rinidad and Tobagother British West Indies	42,413 17,963	6,945 3,436	3,656 236	53,014 21,635	27,699 17,330	2,345 3,884	4,459 2,970	34,503 24,184	20,963 22,882	2,417 5,121	2,963 557	26,34 28,56
aba	815,694	117,819	211,380	1,144,893	969,485	246, 406	242,591	1,458,482	960,906	210,537	345,382	1,516,82
ominican Republic	109,847	22,441	17,425	149,713	152,952	27,590	27,013	207,555	157,957	29,538	31,809	219,30
utch West Indies	10,941 15,053	2,761 561	1.004	13,762 16,618	24,329 7,650	5,733 355	799 242	30,861 8,247	36,419 18,666	7,730 1,894	249 2,324	44,39 22,88
aiti	36,855	7,939	1,523	46,317	35, 197	6,901		42,098	64,099	14,037	1,211	79,34
rgin Islands of U. S	4,388 1,125,720	931 159,983	281 31,809	5,600 1,317,512	5,694 1,290,836	1,158 159,322	160 101, 264	7,012 1,551,422	4,578	1,427 344,946	626 143,051	6,63
olivia	16,789	1,772	980	19,541	6,404	1,153	706	8,263	2,021,527 25,582	3,562	2,530	2,509,52 31,67
azil	301,511	36,695	17,697	355,903	328,863	47,462	23,869	400, 194	922,534	124,323	76,525	1,123,38
ile	183,438 121,692	22,568 20,688	8,837 7,242	214,843 149,622	180,584 135,227	16, 177 25, 757	11,871 19,929	208,632 180,913	370,618 233,437	29,187 56,593	29,813 33,408	429,61 323,43
tuador	24,371	3,100	1,857	29,328	24,792	3,899	937	29,628	37,876	6,903	480	45,25
alkand Island									205	48		25
ritish Guiana	7,205 3,380	1,457 498	1,058	9,720 3,972	2,717 2,148	409 533		4,414 2,681	1,392 2,157	317 725	576 398	2,28 3,28
rench Guiana	309			309			522	522	1,895	119	330	2,01
araguay	188,609	94 999	12 000	996 799	3,931	353		4,284	3,668	1,131	10.000	4,79
(uguay	207,222	24,238 20,241	13,886 13,028	226,733 240,491	345,877 233,460	47,055 19,814	25,338 5,508	418, 276 258, 782	301,408 397,686	47,413 38,936	18,398 20,490	367,21 457,11
ruguay	138,582	27,635	4,013	170,230	202,765	43,062		247,991	362,139		3,582	439,71
a: .den	10,641	1,152		11,793		914					501	
rmenia		********		*********	4,646	914 45		5,560 45	12,222	1,754	501	14,47
eylon	33,293	4,920	12,547	50,760	57,216	5,665	9,214	72,095	99,347	8,591	• 16,915	124,85
ritish India. traits Settlements		21,821 8,702	57,738 23,688	242,668 149,428	198, 157 130, 762	21,518 14,943		259,769 165,622	377,728 221,832	52,078 10,528	86,780 33,036	516,58 265,39
traits Settlements. ther British East Indies	111,000								76			7
	83,556	8,857	11,383	103,796	83,808	8,272		96,420	192,159	31,824	14,738	238,72
	17,318 169,944	1,099 15,353	65,798	18,417 251,095	7,880 217,349	1,008 22,942	60,077	9,088 300,368	2,381 335,187	692 27,383	108,697	3,07 471,26
ava and Madura ther Dutch East Indies	34,372	2,473	7,155	44,000	16,434	1,029	11,429	28,892	24,562	3,256	1,398	29,71
	5,326	501	90	5,917	1,283	297		1,580	441	91		53
lejaz, Arabia and Iraq.	24,452 23,289	2,981 2,345	204 2,451	27,637 28,085	4,553 12,645	580 1,190	519	5, 133 14, 354	59,799 15,573	14,464 2,341	3,247	77,51 17,91
	568,083	40,533	150,226	758,842	733,538	103,075	167,910	1,004,523	823,846	119,830	143,026	1,086,70
Kwantung Paleatine and Syria Persia Philippine Islands Russia Siam	5,612 62,110	770 8 146	601	6,382	3,269 48,935	528 9,114	464	4,261 58,329	403 109,344	199 17,828	28	127,20
Persia	779	8,146 37	584	70,857 1,400	1,628	657		2,285	857	507		1,36
Russia	550,060	74,679	98,615	723,354	627,873	80,309	112,279	820,461	750,581	125,444		1,006,21
Siam	4,576	572 108	101	572 4,785	2,448 5,232	655 653		3,103 7,341	1,848			2,18
		157	172	1,237	677	121	1,300	798	170	27		19
Ceania.									216	70		28
ustralia	841,797	65,024	303.539	1,150,357	969,325	93,883	243,382	1,306,590	1,252,544	145,317	483,447	1,881,30
Australia New Zealand Other British Oceania Franch Oceania Franch Oceania	955,591	84,728	187,846	1,228,165	634,002	65,678	188,143	887,823	813,502	79,968	234,428	1,127,89
Other Oceania	3,830	389	34	4,253	1,744	179	394	2,317	1,744	280	130	2,15
French Oceania	4,988 5,214	917 1,036	1,996	5,905 8,246		643 437	334	5,230 6,746	16,567 3,750	2,485 975	4,045 2,346	23,09 7,07
rica:		4,000	1,090	0,210	0,212	9.37	3,037		0,700	310	2,010	1,01
Abyssinia Algeria and Tunis Belgian Konso	3,613	1 470	1 007	0 400	97			97	**********	********		
Jelgian Kongo	1,131	1,678 167	1,265	6,496 1,298		340		1,427 1,084	1,159	138		1,29
British South Africa	104,302	15,427		119,729	29,687	4,672	52	34,411	30,963	2,930	53	33,94
British East Africa	437,502 51,097	75,605 7,190	18,800 574	531,907 58,861	346,723 59,945	64,583 7,096		430, 200 68, 835	322,518 72,477	36,853 11,398	30,536 602	389,90 84,47
	46,470	3,951	15,156	65,577	46,082	3,942	18,737	68,761	58,565	5,212	15,793	79.57
Egypt		8,169	2,566	66,830	26,635	4,265	11,064	41,964	60,273	10,308	26,595	97,17
Franch Alvies	904	8		912 1,153		12		679	4,537 1,754	1,311 452	268	6,11 2,20
Italian Africa				1,100				612	4 700			6,27
Italiam Africa.	1,153				290	322		012	4,799	1,471		0,41
Italian Africa	1,153	14	9 990	116							116	
Italian Africa.	1,153	14 949 883		8,175	4,737	557 2,039	1,356	6,650 9,100	6,015 8,393	999	116	7,13 10,40
Italian Africa.	1,153	949	1,090		4,737 7,061	557 2,039	1,356	6,650	6,015	999		7,13

1925

stries

\$17,331 11,648 2,758,688 11,190 22,017 4,242,708 1,632 92,313 4,436,612 714,361 5,503 142,574 13,407 9,690 1,029,846 3,045 1,174 9,571 802,149 187,639 62,422 84,744 64,816 2,432 1,495,837 7,22,424 82,570 1,495,837 7,22,424 82,570 1,495,837 7,22,424 82,570 8, 5,344,252 270,580 15,912

28, 266, 429
28, 198
75, 772
36, 146
16, 907
143, 547
66, 169
1, 565, 032
186
23, 030
32, 113
182, 932
71, 983
55, 800
1, 204, 109
1, 9717
79, 848
10, 625
5, 986, 614
426, 920
42, 831
21, 772
4, 145
2, 549
624, 465
547, 709
349, 334

26,097 68,915 1,840,389 10,822 120,972 5,265 538,189 704 12,350 7,871

3,325

43,754 207,741 1,277,706 154,197 69,0308 8,477 60,889 1,342 47,330 47,330 17,228 10 1,342 62 3,439 09 146 84 68,466 35 47,339 20 20,334 80 17,238 126 \$80,307,713

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Country	1922	1923	1924	1925
Aden	\$4,921	\$5,358	\$76,71	\$10,858
Argentina	80,603	162,813	422,264	1,195,247
Australia	597,213	798,172	703,465	729,705
Belgium	3,129	2,971	70,269	421,802
Brazil	12,468	143,706	309,416	847,531
British Africa	194.768	486,662	1,496,590	573,991
British India	200,901	119,664	242,754	412,660
British Oceania, Other		1,763	3,601	3,015
Ceylon	14,640	43,490	34,311	52,789
Denmark	9,813	128,781	241,996	186,827
Dutch East Indies	80,509	67,125	113,299	213,366
Irish Free State			18,925	46,357
Japan	243	7.825	4,811	3,891
Netherlands	1,071	3,196	3,919	,904
Newfoundland	4,806	9,154	6,698	7,305
New Zealand	9,684	234,609	368,719	480,266
Oceania	4.453	1,436	6,936	8,880
Siam	9,903	9,421	20,241	61,066
Spain	6,984	121,110	87,657	5,534
Straits Settlements	45,941	147,309	169,096	249,452
United Kingdom	441,147	509,468		337,344
United States	80,592	471,644	88,111	485,002
Other Countries	41,309	54,662	28,064	38,936
Total	81 026 008	93 530 330	\$4,992,049	\$6.372.725

French Car and Truck Exports, 1923 to 1925

	19	23	19	24	1925 (9 mos.)		
Countries	Cars No.	Trucks No.	Cars No.	Trucks No.	Cars No.	Trucks No.	
Algeria	3,564	202	4,899	420	3,638	312	
Argentina	153	15	189	31	147	30	
Belgium	5.105	448	9,164	633	5,129	201	
Brazil	29	3	66	48	50	10	
Canada	16		10	2	2		
Czechoslovakia	3	1	84	1	394		
England	6,992	246	7,707	371	12,386	265	
Fr. Indo China	913	47	1,225	56	902	91	
Germany	1,679	162	4,391	290	2,272	344	
Helland	162	13	1,019	32	1,029	38	
taly	134	4	427	24	1,495	80	
Japan	320	2	317	7	251	4	
Madagascar	53	6	81	9	144	38	
Merecco	230	87	572	87	702	83	
Nerway	23	1	2		10	11	
Saar Territory	1,240	265	1,398	383			
Senegal	73	15	131	58	125		
Spain	2,946		5,301	487	5,831	367	
Sweden	161		82	5	50		
Switzerland	2,061		2,529	754			
Tunis	236		176		245		
United States	133		166				
Other Countries	2,034	182	3,998	372	5,461	763	
Total	28, 260	2,663	43,934	4,193	42,670	3,643	

Italian Car and Truck Exports

Year	Number	Year 1	Number
1913	6,575	1922	11.370
1914	3,291	1923	12,773
1915	2,485	1924	18.933
1919	2,547	1925 (8 mos)	18,477
1920	11,320		
1921	10,415	Total	98,186

Canadian Parts Exports 1922-1925 | Canadian Passenger Car Exports 1923-1925

Courter		1923		1924		1925
Country	No.	Value	No.	Value	No.	Value
Aden	33	\$10,355	54	\$18,087	45	\$17,306
Argentina	1,869	\$10,355 1,429,630 7,036,671	1,919	1,390,435 3,280,351	3,499	1,975,970
Australia	18,112	7,036,671	10,265	3,280,351	8,644	2,609,499
Austria	3	3,099	30	1,406 19,102	78	900 35,854
Belgian Congo			2	838	20	8,129
Belgium	269	207,904 24,771 127,351 2,659,231 53,970	209	133,626	156	179,500
Bolivia	23	24,771	19	22,120 439,716	190	135.713
Brazil	126 6,146	2 650 221	3,618	1,800,584	$\frac{2,069}{6,226}$	1,304,359
British Guiana	82	53,970	116	59,519	191	2,437,432 76,183
British India	4,002	1,020,010	4,896	2,047,958	6,807	2,763,69
Br. East Indies, Other	2	688				
Br. West Indies, Other.	173	116,034	26 2	15,477 1,731 16,913	69	33,74
Bulgaria Canary Islands	9	6,553	24	16,913	63	2,05 30,38
Ceylon	492	224.010	410	193,526	642	277,858 153,23
Chile	92	120,299 142,728	39	35,637	169	153,23
China	186	142,728	75	45,854 1,222	429	339,85
Colombia	29	32,296	50	59,683	294	184,249
Costa Rica	8	6,983	20	20,405	51	34,75 105,77
Cuba	114	6,983 107,144	47	54,554 21,726	94	105,774
Czechoslovakia	38	20 000	57 185	21,726	970	104 45
Denmark	29	32,828 8,294	180	72,464 416	370	194,456
Dutch East Indies	1,772	726,062	1,572	552,284	5,333	1,950,47
Dutch West Indies	1	595	12	7,456 22,006	23	10,536 33,586
Ecuador			19	22,006	44	
Egypt	35	20,992 6,979	149	81,036	252	131,10
Finland	3	1,669	37	24,737	37	28,421
France			14	8,891	16	13,959
French Africa			10	3,879	8	2,414
French West Indies			4	3,857	12	4,980
French Oceania	15	7 104	336	315,391	212	265,127
Gibraltar	2	3 004	000	310,001		200,120
Greece	12	8,000	18	12,239	82	40,020
Guatemala	14	12,807	25	27,870	19	21,330
Haiti	1	610	17	8,800	58	31,836
Honduras	50	45,427	47	507 41 512	2 7	2,451 5,037
Hungary			19	41,512 17,976	5	4,679
Italy	2	2,188			2	848
Jamaica			68	40,152 195,009	172	92,069
Japan	260 21	166,714	382 19	195,009	557 45	340,392 19,059
Mexico	142	11,179 157,260	137	8,849 137,719	112	122,176
Morocco	4	2,500 286,620 28,683	4	2,052	39	122,176 17,336
Netherlands	386	286,620	114	2,052 101,010 37,239 5,112,154	25	26,942
Newfoundland	47	28,683	76	37,239	72	32,882
New Zealand Nicaragua	8,662	4,136,398	9,511	5,112,154	8,392	4,282,699 7,525
Norway	52	52,646	57	50,613	53	28,603
Norway Oceania	44	14,117	47	15,855	98	34,745
Panama			3	6,522	23	27,470
Persia			200	2,030 52,195	0.00	74,894
Poland			73	67,474	85 25	25.480
Portugal	30	37,010	5	2,287	5	6,811
Portuguese Africa	47	37,010 20,218	130	60,593	181	6,811 77,292 156,071
Rumania			1 5	2,627	303	156,071 14,088
Salvador	29	26 266	41	31,731	10	14,000
San Domingo	21	2,426 26,266 21,838 38,945	41		17	18,911
Siam	110	38,945	152	45,806	210	68,068
Spain Straits Settlements	309	326,550	4	3,004	195	290,072
Straits Settlements	1,232	403,155	1,332	522,720	4,761	1,810,048 171,747
Sweden Switzerland	34		117		316	32,17
Syria	0		29	22,212	67	51,533
Trinidad			1 13	10,630	266	112,069
Turkey	11 000	9,000	47	1 26,999	52	48,486 2,981,401
United Kingdom United States	11,080	7,576,662	5,701	3,890,195	3,060 125	
Uruguay			200		1,326	665,559
Venezuela	53		91	78,828	394	190,361
Yugoslavia			1 1	525	64	37,139
Other Countries	99	90,296	120	68,276	685	443,519
Total	57 491	\$29,324,031	43 994	\$22 090 700	58 005	\$27,793,834
- Utan	101 + 201	LOU, TEU, UME	- XU, OOK	. 655,000.198	100,000	AT1 1 1 0 0 1 0 0 1

Canadian Truck Exports 1923-1925

Countries		1923	1	1924		1925	Countries	1	923	1	924		1925
	No.	Value	No.	Value	No.	Value		No.	Value	No.	Value	No.	Value
Aden. Australia. Belgium	7,213 1	2,479,201 751	5,837	1,973,905			Jamaica	80		1 151 3	446 70,575 1,948		1,60
British Africa British India Br. East Indies, Other Br. West Indies, Other.	619 704 2	212,593 235,142 668	1,586	229,351 579,170	1,682 2,033		Newfoundland New Zealand Other Oceania Portuguese Africa	1,189		1,881 13	4,245	1,749 12	10.74
British Guiana British Oceania Ceylon	8		412	1,165 1,911 150,190	13 19 176	4,406 5,710 58,518	Siam Spain Straits Settlements	119 5 158	1,304 39,522 1,760 51,302		101,015	1,004	333,5
Chile Cuba Outch East Indies Outch West Indies	30 12	6,479 9,835 3,734	3	,	1,226	864 416,754 2,160	Trinidad	2,024 18	908,167 12,826	1,263 9	415,621 17,565	2,006	16,5 349,5 6,4 14,6
Fiji Islands Finland French Oceania	6		13		15 1	5,022 349	Other Countries	11	4,386		5,545 \$4,429,161		299,9

British Motor Vehicle Chassis Exports

Countries	1913	1914	1915	1916	1917	1918	1919	1920	1921 ·	1922	1923	1924	1925*
Argentina								£19,209		15	18	32	
Australia	£175 154	£122,591	£35,173	126 £42,016	£4.283	£3,374		876	348	£10,907 549 £273,394	£7,845	1.616	6.0
Belgium	£13,520	81		242,010	24,200	£3,3/4	85	10		1 4	3.9	1.5	£1,174,73
	210,020	249,011					£59,160	1.9	8		£21,166	12	
Brazil				* * * * * * * * * * * * * * * * * * * *			£4,295	55	£8,257		£4,486	015	
British Africa	109	89	51	158	35		£7,283	£44,594			£27,744	£70,495	£104,2
British East Indies	£45,405	£34,570	£16,568	£65,739	£18,448			908		************			
British India	65						£124,049	£748,814	£50,026	£146,064	£14,898	£6,158	£83.6
Canada	£37,586	£7,987					£9,618	£25,244	£16,546	£16,497	£18,838	£18,132	£24,6
Ceylon							£4,952	£26,143	£1,226	£485	3	41	
China				• • • • • • • •			£3,707	84		£8,962	£10.685	41	1 1.
Cuba								£26,871		20,802	210,080	220,480	£54,8
Denmark							48		2		6	9	
	184	154	35	139	190	25	£35,031	91	7.2	81	10	FO	£8
France	25	£114,147	£18,040	£60,769	£95,712	£23,940	£14,618	£108,348	£90,691	£26,278	£49,351	£61,754	£46,5
Germany	£10,767	£11,382									£344	£8,687	£16,0
Japan							£1,864	£13,406	£39,974	£3,127	£16,831	£11,987	£3,6
Netherlands							£44,696	£48,784		£5,531	£17,572	£5,774	£12.7
New Zealand				£10,308	£3,638	£1,350	£43.157	£316,089	£74.477	£74.748	£123,635	419	
Norway							£7,440	11			£1,615	18	
Portugal							£2,120	22		20	4	4	
Russia	8	£209,860	£20,654	48	£243.844		£2,120	15		£2,500	£4,007	8	£2,8
	£3,752	£209,800	£20,604	248,378	£243,844			£12,887	27	£1,897	14	£2,768	£55,3
Spain		* * * * * * * * * *					£3,937		£40,656	1.1	£13,563	£216	£5,60
Straits Settlements							£2,737	£82,933	£24,282	£8,603	£16,044	£27,280	£75,2
5weden							£1,550	£16,319		£330	********		£2,9
Switzerland		*********		********				**********			£10,552	£3,642	£4,9
United States	£4,359	£51,410	£41,642	£30,076	£2,850		£8,742	£214,357	£104,891	£18,796	£11,405	6	
Other Countries	£76,389	£78,172	£55,104	£11,218	£4,712	£3,922	60	97	£204,842	9.4	80,903	183	36
	1,254	1.436	488	566	658	65	678	3.124	1.009	1.128	8.088		8,44
Total	£465,283	£679,696	£187,181	£9 8,504	£373,487	£38,756	£471,585	£2,467,680	£927,811	£647,230		£1,175,997	£2,092,91
*Eleven months.													

British Parts Exports

Countries	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925*
Argentina				£14,472	£26,195		£12,295	£13,153	£23,453	£16,965
			£36,145	100 077	271,034	£112,183	66,946			217,656
ANTINIA.	1		200,210	61,485	132,858		33,731			
Brazil				7,556	14,576		00,701			114,818
Pritish Africa	58,540	33.026	23,128					4,599		31,897
British East Indies.	114.981	100,020		70,838	177,790	47,097	25,677			93,424
British India.	114,801	103,478	77,328					46		
anada				163,434				171,638	169,505	183,947
CanadaCeylon				0,304			16,751	38,775		23,144
Ceylon China				11,421	30,026	8,028		12,060		24,396
China. Czechoslovakia							5,731	4,149		7.765
Czechoslovakia.									7.964	11.045
Denmark				25,135	80.386	21.964	12,456	62,762	144,877	170,543
France				20,415	45,247					8,681
Garmany	271,953	287,9	164,478	507,516						206,900
			,	26	4,118		12,573		24,540	59,185
				-0	2,110		12,010	0,001	247,222	209.052
			78,340	111.058	192,513		18.398	35,103		52,096
Japan Netherlands	91,200		10,010	12,070						
Netherlands New Zealand								28,026		38,581
New Zealand	00 100	00 710		32,233	90,942		12,396	15,100		34,173
Norway	00,100	20,010					17,565		62,877	77,705
Portugal				7,798	13,825		1,852	4,260		6,661
Kussia									4,355	3,878
Russia.	32,764	177,519		1,392		1,111	12,787	5,414		27,750
Strate C		25,198	9.287	25,962	50,540	56,010	16,944	18,091	33,143	27,951
Spain Straits Settlements Sweden				15,265	53,706	25,547	7,635	19,833	18,520	37.717
Sweden . Switzerland				5,649	42,167		4,640	14,574		23,119
Jwitzerland				31.694	17.372		1,892	4,488	10,727	9.842
United States	20 448	10 022	4.422	5.330			9.032	5,789	8,062	5,978
Switzerland . United States . Uruguay	20,110	10,022	7,722	0,000	20,000	30,000	8,002	0,100	32,585	13,445
Uruguay Other Countries	157,875	99,876		102,998	275.924	390,312	103.511	228,819		110,086
Total										
Total	£842,536	£905,285	£476,185	£1,390,498	£2,346,114	£1,261,352	£603,626	£1,048,979	£1,649,652	£1,848,400
*Eleven months.	-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					

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817,306 975,970 909,499 900 35,854 8,129 179,500 135,713 304,359 437,432 76,183 763,691

33,740 2,053 30,384 277,858 153,233 339,851 184,249 34,757 105,774 194,459 424 ,950,475 10,536 33,586 131,104

10,536 33,586 131,104 28,421 13,959 2,414 4,980 265,127 40,020 21,330 31,836

40,020 21,330 31,836 2,451 5,037 4,679 848 92,069 340,392 19,059 122,176 17,336 26,942 4,282,699 7,525 28,603 34,745 27,470

74,894
25,480
6,811
77,292
156,071
14,088
18,911
68,063
290,072
1,810,045
171,747
32,171
51,533
112,069
42,981,401
38,103
665,539
190,361
37,139
443,519

37,139 443,519 27,793,834

Value

1,668
...
2,710
615,422
4,318
10,748
144,717
333,530
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349,551
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British Truck Exports

Country		1923	1	1924	1	1925*
Country	No.	Value	No.	Value	No.	Value
Argentina	18	£11,146	14	£7,381	58	£63,473
Australia	83	70,233	122	70,017	72	39,497
Belgium	4	2,412	12	4,984		
Brazil	1	900	2	1,119	4	1,171
British Africa	63	39,347	106	57,020	104	48,549
British India	181	150,577	437	260,603	494	267,457
Canada	2	1,650	16	30,310	1	235
Ceylon	17	3,678	17	6,919	26	8,993
China	7	4,102	24	34,272	24	9,852
Denmark			5	662	4	3,760
Egypt	11	2,820	7	3,945	20	10,668
France	10	3,490	11	858		
Germany			18	7,857	47	16,038
Irish Free State			628	151,673	106	37,464
Japan	27	8,767	24	14,162	9	6,227
Netherlands	15	6,847	19	10,644	14	4,119
New Zealand	42	27,225	46	35,239	40	26,683
Norway	5	4,530	3	3,307	1	1,242
Portugal	4	2,586	2	1,566	7	2,219
Rumania	1	1,500				
Russia	4	2,728	1	1,115	104	138,468
Spain	62	94,477	7	1,510	6	1,813
Straits Settlements	11	12,377	15	9,113	26	15,060
Sweden	17	12,492			3	1,550
Switzerland			1	295	1	146
United States	2	400	3	1,268	2	3,595
Other Countries	389	198,853	192	71,722	216	106,111
Total	976	£663,137	1,732	£787,561	1,389	£814,390

British passenger car exports have increased both in number and volume for several years past. More complete cars were exported in eleven months of 1925 than in the whole year of 1924.

British truck exports increased in value last year over 1924 despite the fact that the total number shipped probably will be shown to have been less even when the twelve months total is available

British Passenger Car Exports

Imp			tor Cars
	Into		
		No.	Value
1914		300	\$ 620,493
1915		322	525,303
1916		1,474	801,911
1917		105	188,280
1918		105	75,136
1919		117	123,025
1920		926	1,026,518
1921		522	876,163
1922		483	802,888
1923		853	884,125
1924		604	841,524
1925		672	1,064,975
		6,483	\$7,830,341

Country		1923	1	1924	1925*		
	No.	Value	No.	Value	No.	Value	
Argentina	12	£7,899	22	£12,146	37	£15,889	
Australia	536	238,199	22,053	764,044	2,974	869,867	
Austria			50	11,739	11	2,419	
Belgium	16	6,310	98	33,087	24	6.253	
Brazil	1	955	8	3,960	22	10,838	
British Africa	246	71,773	817	178,502	1,700	336.349	
British India	304	135,588	1.057	311,116	1,548	358,502	
Canada	18	19,675	21	12,614	53	30,473	
Ceylon	75	21,320	175	41.160	395	79.925	
China	52	18.787	198	43.329	280	56.397	
Denmark	44	19,477	31	12,335	61	15,997	
Egypt	24	6,474	76	15,272	167	33,620	
France	29	25,338	162	85,240	49	31,369	
Germany	17	4,937	155	40,736	277	65,455	
rish Free State			3,137	570.077	2,526	489,614	
taly			10	4.181	3	2,442	
Japan	58	20,622	213	51,665	87	15,801	
Netherlands	72	29,038	98	35,559	229	59.892	
New Zealand	368	125,469	1.176	318,398	2.341	575.253	
Norway	5	2,041	6	2,489	22	4.722	
Portugal	17	9,583	43	13.674	196	45,306	
Rumania	2	2,105		10,011	3	588	
Russia	10	10,682	2	2,315	10	9,924	
Spain	62	42,608	51	32,149	132	48,853	
Straits Settlements	119	38,124	393	93,649	1,186	237.124	
Sweden	32	15,335	17	6,640	5	1.138	
Switzerland	10	8,164	19		92	31,500	
United States	17	20.091	24	9,832	42	42.049	
Other Countries	1,102	307,189	699	22,268		270.967	
Other Countries	1,102	307,189	699	169,191	1,352	270,907	
Total	3,248	£1,207,783	10.953	£2,897,361	15.824	£3,748,526	

^{*}Eleven Months.

American Exports of Electric Cars and Trucks

Countries		1923	-	1924		1925	Countries		1923		1924	1925	
	No.	Value	No.	Value	No.	Value		No.	Value	No.	Value	No.	Value
North and													
South America	0.	8F0 500	00	844 FO1	44	850 041	Europe	- 1	\$1,414			1	90 OF
anada	31	\$50,769	29		41	\$59,041	Belgium	1	\$1,414			1	\$2,05
anama	15	19,974	29	43,321			Germany	22	20,849	12	8,000	1	2,16
alvador	1	800		*******			Netherlands	22	20,849	12		1	1,52
fexico	37	27,582	40	36,009	38	45,908	Rumania			1	250		
lewfoundland			_				Spain	1	2,100	2	1,340		
and Labrador	1	2,732	2	4,780	1	200	Sweden	13	22,552	3	5,040		2,36
ther British W.						0.50	United Kingdom.	9	13,637	1	2,506	15	20,29
Indies					1	352	Oceania						
uba	2	2,056			5	12,758	Australia	3				4	13,20
rgentina	3	8,730	1	640			New Zealand	1	2,215				
razil	2	7,255	1	1,359			Canary Islands			1	566		
olumbia					3	2,490	French Oceania.			2	1,350		
iuatemala			1	3.074			Africa						
enezuela	3	15,280	1	600			British So. Africa.	5	5,727	2	4,004	9	17,50
Asia		,					Other Portuguese					1	
ritish India	2	5.000	2	5, 147			Africa	1	1,183				
apan	47	64,315		17.019		9.614		_		_		-	
hilippine Is	2	4,017		21,020	2			202	\$286, 107	146	\$185,728	129	\$195.60

U. S. Airplane Exports 1925

Countries No.	Value
Argentina	\$177,200
Australia 1	500
Belgium 1	7,000
Brazil 10	61,975
Canada 15	14,900
Columbia 2	33,879
Columbia 2 Cuba 9	94,000
Honduras 1	1,000
	11,750
Mexico 3	5,000
Philippine Islands 5	83,958
Salvador	8,800
Java & Madura 1 Mexico 3 Philippine Islands 5 Salvador 2 United Kingdom 5	11,320
Totals80	\$511,282

^{*}Eleven Months

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15,889
69,867
2,419
6,253
10,838
36,349
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30,473
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31,369
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16,455
4,722
445,306
42,442
48,853
237,124
41,138
31,500
42,049
270,967

748,526

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Value

177,200 7,000 61,975 14,900 33,879 94,000 1,000 11,750 5,000 83,958 8,800 11,320

511,282

EDITORIAL

The 1926 Statistical Issue

RAPID expansion, not only in size, but also in diversity, of the automotive industry every year makes more difficult the compilation and, at the same time, more interesting the results of the annual Statistical Issue of Automotive Industries.

The vital bearing of retail financing on future car sales, the growth of the bus and bus body industry, the increasing interest in aviation and the constantly stronger emphasis on dealers and distribution all are reflected in the new data presented this year. An attempt to give greater detail and more practically useful combinations of figures has been made in addition to bringing up to date material concerning those factors which long have been of fundamental importance to executives and engineers in their daily work.

Our aim has been a reference handbook of automotive information which may be used as a working accessory throughout the year. The extent to which that objective has been achieved must rest with our readers. Should errors have crept into this mass of statistics despite the many careful checkings which they have been given, we will appreciate hearing of them.

Piston Pin Fastenings

A CERTAIN amount of trouble has been experienced from the fastenings of piston pins, whether in the piston bosses or in the connecting rod. Recently a number of designers have provided double safeguards against the drifting of pins and resulting scoring of the cylinder walls. They use snaprings which are inserted into grooves cut in the bore of the cylinder bosses just beyond the ends of the piston pin, and in addition keep the pin from rotating in the bosses by means of a set screw or pin screw. This should be effective, but it is, of course, somewhat complicated.

Fastening the piston pin in an aluminum piston by means of a set screw only is said to be somewhat hazardous, because the bosses of the aluminum piston, on account of the high heat conductivity of the metal, rise to a quite high temperature, and on account of the higher heat expansion of aluminum, the bores are expanded more than the pins and the latter have a tendency to come loose. Of course, in most of the newer engines the piston pins are clamped in the connecting rods and this difficulty does not arise.

Floating piston pins seem to be gaining in popularity. One advantage possessed by them is that they will turn in their bearings and therefore will wear evenly over their entire circumference, instead

of only over short arcs at opposite ends of a diameter, as is the case when the pins are fixed. In this country we usually keep the floating pins from drifting by the use of snap rings. Abroad aluminum knobs or mushrooms, inserted into the ends of the hollow piston pin, are largely used instead, and are said to be giving excellent satisfaction.

Wage Incentive Spreading

THROUGHOUT the industry constant efforts are being made to put more and more workers on some sort of incentive wage basis. Group bonus plans have been applied in some places to tool room workers, maintenance men and even to sweepers and cleaners about the plant.

Properly worked out and applied to specific plant conditions, the desirability of applying some sort of incentive plan as widely as possible is entirely sound. But too great results in a brief period of time cannot be expected from its installation. It seems to have been almost the universal experience of factories which have installed such plans that the workmen in the beginning are a bit suspicious of the plan rather than enthusiastic about it.

When the plan has been working long enough for the workers to see a favorable effect on their pay envelope, they gradually begin to understand its possibilities and to make greater efforts to obtain the benefits which are possible under it. If the plan is such that it does not continue to give greater rewards for greater efforts even in the higher stages of output, of course, that fact too is reflected in the pay envelope and almost automatic limitation of production usually results.

A sound incentive system grows in value from the management's standpoint the longer it exists.

Statistics Increase Stability

SEVEN years ago the automotive executive who took any real interest in studying statistics and analyzing trends by means of charts and curves was the exception rather than the rule. But a lot of economic changes have come about in the industry in the last seven years, and many of those changes have made the profitable sale of automobiles a more strenuous task than it was previously. Specific knowledge about sales, engineering and marketing factors no longer is merely desirable—it is necessary.

Today most executives recognize this to be the case. Practically every factory has someone who is giving time to study of figures and trends. The result is a constantly growing stability of operation within the industry.

AUTOMOTIVE

Philadelphia, Pennsylvania



INDUSTRIES

Thursday, February 18, 1926

Decreased Raw Material Prices Serve to Encourage Car Industry

PHILADELPHIA, Feb. 18—The automobile industry was favored last week by the easing in steel prices, which, coupled with the earlier drop in tire prices, materially relieved the manufacturing cost problem. Another favorable development was with respect to National legislation, as it now appears certain that the tax on trucks will be entirely removed and the car tax reduced to 3 per cent at most, as against the current 5 per cent.

Higher list prices are no longer expected in trade circles, as a result of the lower costs and the reductions made by Ford on closed cars. Whether corresponding downward revisions will be made by other manufacturers of low-priced vehicles remains to be seen, but the sentiment is strong for standing pat on present lists, and placing selling emphasis on quality rather than price.

General Situation Unchanged

There has been little change in the general production and sales situation, although the heavy snows in the eastern states have naturally slowed up car sales to a certain extent. On the other hand, the settlement of the coal strike bears promise of a revival of sales in the anthracite regions, which have been virtually out of the market for a long time.

As to the immediate future, the outlook, as many manufacturers see it, is that the greatest increase in buying will come from the industrial centers. There is the possibility that the agricultural sections will come strong later, but forecasts of farm buying are inevitably guesswork to a large degree.

The current prosperity of the car makers is being shared by the parts and accessories producers, most of which are working at capacity. Foreign sales of all automotive products continue to better last year's level.

Borg & Beck Reports Net of \$668,932 for 1925

CHICAGO, Feb. 18—The Borg & Beck Co., manufacturer of friction clutches for gasoline engines, reports for the year ended Dec. 31, 1925, net income of \$668,932, equal to \$5.35 a share on the 125,000 shares of capital stock outstanding, and comparing with \$309,236 or \$2.47 in 1924.

White With Bendix Brake

SOUTH BEND, Feb. 16—D. McCall White has been appointed works manager of the Bendix Brake Co., a subsidiary of the Bendix Corp. of Chicago. Mr. White began his engineering experience in Glasgow, Scotland, and came to this country in 1914. He was for a time with the Cadillac Motor Car Co.

Will Bring Peugeot Heavy-Oil Engines

Engineers to Show New Power
Plant to Motor Industry of U. S.

PARIS, Feb. 10—Lucien Rosengart, vice-president of the Peugeot Automobile Co., and one of the most active figures in the French automotive industry, will sail for New York on the Paris, Mar. 31, accompanied by a staff of Peugeot engineers and commercial experts.

M. Rosengart, who up to two years ago had heavy financial interests in the Citroen company and was largely responsible for the business policy of that firm, is coming to the United States with the double object of demonstrating the practicability of a heavy-oil engine which Peugeot has been developing for the last six years for truck and passenger car service and of collecting data for a big motor-boat business on which his company is about to embark.

Say Difficulties Solved

A couple of 3-ton trucks, each fitted with a 2-cylinder 2-stroke heavy oil engine, weighing no more than a normal gasoline engine, will be brought on the Paris. It is claimed that all the technical difficulties in connection with this engine have been overcome and that it is now ready for commercial application. The Peugeot engineers state that they will demonstrate in various parts of the United States the ability of these trucks to function properly on any kind of heavy oil.

The other phase of this visit to America will be the collection of material on the use of motor boats and the motor boat industry. Peugeot has decided to make use of its automobile organization to develop a motor boat business and already is in production on three standardized types of motor boats, having lengths of 18, 25 and 31 feet, in which their standard car engines of 5, 10 and 15 nominal horsepower are fitted.

G.M. JANUARY SALES SHOW GREAT GAINS

NEW YORK, Feb. 16—General Motors Corp. sales by dealers to users and by manufacturing divisions to dealers in January more than doubled the first month in 1925.

Sales by dealers to users were 53,721 cars and trucks, compared with 25,593 in the previous January. Car and truck sales to dealers by the manufacturing divisions were 76,238 against 30,642.

Sales by dealers to users also exceeded February of 1925 and divisions' sales to dealers exceeded both February and March.

The following table includes passenger car and truck sales in the United States and Canada and overseas by Chevrolet, Oldsmobile, Oakland, Buick and Cadillac divisions:

OILD.				
	Deal	ers Sales	to User	*8
		1926	1925	1924
Jan.		53,721	25,593	33,574
Feb.			39,579	50,007
Mar.			70,594	57,205
	ivisi	ons Sales	to Deal	lers
		1926	1925	1924
Jan.		76,238	30,642	61,398
Feb.			49,146	78,668
Mar.			75,527	75,484

Although France possesses 10,000 miles of navigable waterways, they carry practically no traffic.

Stewart-Warner's 1925 Net Profits, \$7,544,089

CHICAGO, Feb. 16—In the balance sheet of the Stewart-Warner Speedometer Corp., as of Dec. 31, 1925, patents, trade marks and good will have been written down from \$8,291,569 to \$1.00. The president, C. B. Smith, points out that this does not mean any loss of good will or exhaustion of patent values.

"The company still has a tremendous investment in both patents and good will," he says.

The balance sheet shows current assets, \$14,729,514; current liabilities, \$2,772,070; and net working capital, \$11,957,444, comparing with \$7,240,170 on Dec. 31, 1924. Cash and marketable securities on hand are \$3,845,671, compared with \$2,225,870. Net profits increased from \$3,501,107 to \$7,544,089, and surplus, after writing off good will, decreased from \$12,709,677 to \$5,103,399. The 1925 earnings were equal to \$12.57 a share on 599,990 no par shares outstanding.

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Forecasts Reduction in Gasoline Losses

Huge Evaporation Waste to be Eliminated, American Institute Hears

NEW YORK, Feb. 17—Addressing the American Institute of Mining and Metallurgical Engineers, J. H. Wiggins of the Chicago Bridge & Iron Works said that evaporation losses in handling petroleum, amounting to 1,102,500,000 gallons of gasoline a year in the United States, in five years through better methods of handling and new devices for storing, will have been so reduced as to render the condition harmless.

Dr. Van H. Manning, former director of the United States Bureau of Mines, and director of technical research for the American Petroleum Institute, said the great need of the oil industry today is a comprehensive program of technical research in efficient production and treatment of petroleum.

Sees Production Drop

F. Julius Fohs predicted a decline of 33 per cent in petroleum production this year by 27 major pools of this country, which last year produced 400,000,000 barrels of oil or 52 per cent of the Nation's production.

The American Petroleum Institute estimates that the daily average gross crude oil production in the United States for the week ending February 13 was 1,902,500 barrels, comparing with 1,906,250 barrels for the preceding week. Imports of petroleum, crude and refined, at principal ports increased from 1,043,000 to 1,561,000 barrels. Stocks at refineries decreased 1,791,000 barrels in January from December.

Toledo Shows Continuing Increase in Employment

TOLEDO, Feb. 15—Employment in Toledo automotive plants is above the average mark for 1925 already and indications are that gains will continue until May.

Last week there was a net gain of 897 workers in 51 plants for a total of 26,215 workers as compared with 22,816 at the same time last year. Large gains have been shown each week since the beginning of the year. Increases are well spread out among several of the subsidiary automotive plants.

Many Car Manufacturers Visiting Pacific Coast

LOS ANGELES, Feb. 15—This city is playing host this month to more prominent men of the Nation's automotive industry than were ever on the Pacific Coast before at one time.

Walter P. Chrysler, president, and J. E. Fields, vice-president of the Chrysler

Corp., were the first to arrive. Others who followed included Charles W. Nash. president of the Nash Motors Co.; Lawrence P. Fisher, president of the Cadillac Motor Car Co.; M. E. Forbes, president of the Pierce-Arrow Motor Car Co.; A. R. Glancy, president of the Oakland Motor Car Co.; E. T. Strong, sales manager of the Buick Motor Co.; Lynn Mc-Naughton, vice-president and sales manager of the Cadillac Motor Car Co.; R. H. Grant, vice-president and sales manager, and R. K. White, sales promotion manager of the Chevrolet Motor Co.; Gilbert W. Lee, treasurer of the Paige-Detroit Motor Car Co.; H. T. De Hart, advertising manager, and George L. Brown, auditor of the Reo Motor Car Co.; A. Barit, secretary of the Hudson Motor Car Co.; H. H. Brooks, general director of sales and advertising manager of the Marmon Motor Car Co.; E. L. Cord, president of the Auburn Automobile Co., and others.

Duffield to Assist A.E.A. Commissioner

CHICAGO, Feb. 17—James E. Duffield, promotion manager of the Citizens' Committee to enforce the Landis award, will become assistant to Commissioner William M. Webster, of the Automotive Equipment Association, March 1, it was announced here today.

Mr. Duffield first became interested in the automotive industry in 1905 when he was special western representative of the Thermoid Rubber Co., known at that time as the Trenton Rubber & Mfg. Co. In 1912 he was transferred to the Chicago territory by the Thermoid concern. Following this connection Mr. Duffield was with the Brunswick-Balke-Collender Co., the Bailey Non-Stall Differential Co., of which he was part owner, and the Whyte-Duffield Mfg. Co., of Chicago, of which he was also part owner. The latter concern made steering gears.

For the last three years Mr. Duffield has been associated on the Landis committee with Commissioner Webster and also has served on a number of committees of the Chicago Association of Commerce.

Thomas Made General Manager of British Co.

LONDON, Feb. 5 (by mail)—H. Kerr Thomas, for some years a prominent official of the Pierce-Arrow Motor Car Co., who, since his return to England in 1920, has been resident director of the Associated Equipment Co. (maker of A. E. C. trucks and the majority of London buses) recently severed his connection with A. E. C. and has been appointed general manager of Harper Sons & Bean, maker of Bean cars, with a plant at Dudley, near Birmingham.

It is reported that Hadley's, one of the largest steel manufacturers in Sheffield, has recently acquired a controlling interest in Harper, Sons & Bean.

Business in Brief

Written exclusively for AUTOMO-TIVE INDUSTRIES by the Guaranty Trust Co., second largest bank in America.

NEW YORK, Feb. 18—Despite moderate recessions in industrial activity and in trade volume, business in general continues at high levels, and probably is more active than at this time last year. The least favorable showing in recent weeks has been made in retail lines, which have felt the adverse effects of extreme weather and, in rural sections, of bad roads. Commodity prices continued to decline last week.

BUILDING CONTRACTS

Building contracts awarded last month in 37 states, according to the F. W. Dodge Corp., had a total value of \$457,158,600, the highest January figure on record. The increase from the total of January last year was 48 per cent.

CAR LOADINGS

Car loadings in the week ended Jan. 30 numbered 925,263, as against 921,734 in the preceding week, and 897,368 in the corresponding period last year.

UNFILLED STEEL ORDERS

Unfilled orders reported by the U. S. Steel Corp. on Jan. 31 amounted to 4,882,739 tons, as against 5,033,364 tons at the end of December, and 5,037,323 tons a year earlier.

BANK DEBITS

Bank debits to individual accounts reported to the Federal Reserve Board for the week ended Feb. 10 were 9.5 per cent below the total for the preceding week, but 7.7 per cent above that of a year ago.

FISHER'S INDEX

Fisher's index of wholesale commodity prices stood at 158.6 last week, as against 159.6 a week earlier.

FEDERAL RESERVE STATEMENT

Bills and securities held by the Federal Reserve banks increased \$28,100,-000 during the week ended Feb. 10, with a gain of \$45,600,000 in discounts and declines of \$1,700,000 in open market purchases and \$16,600,000 in Government securities. Note circulation increased \$5,300,000 and deposits \$13,600,000, while reserves remained unchanged. The reserve ratio declined from 74.5 to 74.2 per cent.

MEMBER BANKS' STATEMENT

Loans of reporting member banks increased \$26,000,000 during the week ended Feb. 3. Investments rose \$2,000,000, borrowings from Federal Reserve banks \$44,000,000, net demand deposits \$2,000,000 and time deposits \$19,000,000.

MONEY

The range of call loan rates was slightly higher last week, at $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent, as against 4 to $5\frac{1}{2}$ per cent a week earlier. Time loan and commercial paper rates were unchanged at $4\frac{1}{2}$ to $4\frac{1}{2}$ per cent and 4 to $4\frac{1}{2}$ per cent, respectively.

No Rise in Steel Prices Anticipated

Competition Will Probably Keep Them Around Present Levels

NEW YORK, Feb. 18—Steel market conditions are such that it is just as easy to prove that they are satisfactory to the producers as that automotive buyers could not have things more their own way.

The golden picture of the state of affairs in the steel industry which finds its way to the stock market pages of the newspapers every Saturday is true to the extent that things might be considerably worse than they are, but declines in orders, backlogs and rate of operations make it obvious that steel producers are more dependent upon the day-to-day hand-to-mouth buying than they have been in some time.

Concessions Often Offered

Certain it is that for the time being all talk of higher prices has disappeared, and that, while automotive consumers bring no pressure to bear to lower going market prices, competition for all orders that overhang the market is so keen that concessions of \$1 or \$2 a ton, especially in sheets, are more frequently proffered than exacted.

Strip mills enjoy relatively the best quota in the way of automotive orders. While 4.40c, Pittsburgh or Youngstown, is nominally quoted for full-finished, 22gauge automobile body stock, producers of high quality material insist that they have no trouble in getting business at 4.50c from quality buyers. Forwardlooking sheet-rollers and finishers find consolation for close prices in the steadily expanding demand resulting from the growing popularity of all-steel bodies. Such expansion will, in time, permit of certain economies in production made possible by the greater tonnages specified.

In times like the present, the steel industry always falls back for "window-dressing" on railroad orders, and it is significant that the brightest spot in this class of demand continues to be that for automobile cars, and inquiry for 1,000 50-ft. cars of this type from the Northern Pacific is among the latest developments.

The Metal Markets

Pig Iron—Settlement of the anthracite coal miners' strike, by which the coke market should be brought back to normal price conditions, has had more effect on sentiment in the pig iron market than on prices, because going pig iron prices were based on normal coke prices, and were not advanced as the result of the strike. Blast furnaces were generally protected by contracts, but lately some of the smaller producers sought to profit from the high coke prices by diverting

RUBBER IMPORTS TOTAL 38,697 TONS

NEW YORK, Feb. 18—Importations of crude rubber into the United States during January, 1926, totaled 38,697 tons, an increase of 8,737 tons over January 1925, according to figures compiled and distributed by The Rubber Association of America, Inc.

part of their supply to the domestic fuel

In the iron ore market the topic in the foreground is what price a 275,000-ton inquiry of the Ford Motor Co. will bring out.

Aluminum—Automotive demand for aluminum continues good, and prices ride on an even keel. Imports are of unchanged proportions. Remelted metal is active at full prices.

Copper—The copper market appears to be in fair shape. Stocks are about 10 per cent higher than they were a month ago, but sentiment is rather

Tin—Spot and nearby tin is eagerly sought by consumers who have run short. Statistics are a prop to prevailing high levels.

Lead—Somewhat easier conditions obtain and demand from storage battery makers is quiescent.

Zinc—The break in prices resulting from increased supplies left the zinc market weaker than it has been in many a month.

Wisconsin Approves Car Insurance Plan

NEW YORK, Feb. 16—C. M. Martindale, secretary of the Home Insurance Co., reports after a trip to Madison, Wis., that Attorney General Ekern, who first disapproved the Studebaker insurance plan, has now approved it as modified for operation in that state.

The effect of the modifications is to remove the objection that Studebaker dealers, under the plan, are acting as insurance agents. As modified, the plan requires that, when the dealer so desires, the unpaid balance of the car purchase price will be carried by an acceptance corporation, which requires that insurance in a specified insurance concern will be carried on the automobile.

Upon making a deferred payment sale, the dealer is instructed to sign and obtain the purchaser's signature to an insurance application, and forward it to a local agent of the insurance company, who will send the policy to the purchaser. The premium will be paid to the local agent and the policy will cover the interests of the purchaser, the dealer and the accept the purchaser, the dealer and the accept to and settled by the local agent and the dealer will in no way be compensated for his part in this plan.

N.A.C.C. to Study Financing Problems

Directors, at Mar. 3 Meeting, Are Likely to Consider N.A.D.A. Platform

NEW YORK, Feb. 16—It is likely that directors of the National Automobile Chamber of Commerce, at their regular meeting Mar. 3, will consider the platform on automobile financing recently laid down by the National Automobile Dealers Association in Chicago.

Although Alfred Reeves, general manager, and many car company executives are out of the ctiy, it is learned that the clear relation of several points in the platform to the finance methods being followed by manufacturers is recognized by them.

Points to be Worked Out

These points include the elimination of all dealer endorsement of customer paper as a means of removing a legal contingent liability; the elimination of practices requiring the dealer to sign a separate repurchase agreement in connection with non-recourse paper; discontinuance of payments of subsidies by manufacturers to finance companies; complete freedom to the dealer in selecting the finance company with which he is to do business; and the limitation of the right of the manufacturer to fix maximum cost of financing to permit the changing of the maximum legal interest rate, plus the cost of an adequate credit investigation and the maintenance of a diligent collection force, plus a charge adequate to protect the finance company on non-recourse or the dealer on recourse paper; and the discontinuance of advertising characterized by unwarranted stress of low rates and low down-payments.

It is recognized that these points, especially as emphasized by the N. A. D. A., cannot be disregarded by car manufacturers, and that they are of particular interest to the special committee appointed by the N. A. C. C. to survey the whole automobile financing and insurance field.

A. R. Erskine, chairman of this committee, is out of the country, and the committee will not consider these points officially until he returns.

Seaman Body Corp. to Employ 1500 More Men

MILWAUKEE, Feb. 17—Fifteen hundred more men will be added to the present working force of 4,200 by the Seaman Body Corp. to keep pace with the demand for Nash and Ajax cars, bodies for which are made by the plant. The new workers will be taken on during February, according to Irving Seaman, secretary-treasurer.

The plant is being operated on a 24-hour a day schedule, with a daily run of 600 bodies, which is to be jumped to 700.

Rubber Corp. Plans Held in Abeyance

N.A.C.C. at March Meeting Will Probably Work Out Details of Organization

NEW YORK, Feb. 16—No further developments in the organization of the American Motor Rubber Corp. are expected until its directors attend the meeting of the National Automobile Chamber of Commerce directors on Mar. 3. At that time it is probable that plans will be completed for filing the charter, and, perhaps, opening office headquarters in New York.

Since the announcement in New York show week that some of the N. A. C. C. directors, as individuals, had authorized the formation of a corporation with \$10,000,000 initial capital to produce, purchase and deal in raw rubber, the N. A. C. C. has received several hundred letters, many of which offer rubber-producing areas for sale to the corporation, with others offering the services of men with experience in the rubber industry. So far no action has been taken on any of this correspondence. It is learned, however, that the corporation plans will go forward in due time.

Reclaimed Rubber Gains

According to the Department of Commerce, reclaimed rubber used in the United States during 1925 totalled 320,-320,000 lbs., compared with an estimated 179,200,000 in 1924, and with the prospect that about 448,000,000 lbs. will be produced and used this year. The department estimates the annual reclaimed rubber production capacity, as of Jan. 1, as 418,185,600 lbs., and by October 1, it is expected to increase to 547,926,400 lbs. Annual consumption of crude rubber in the United States is estimated at about 900,000,000 lbs.

Prices of spot crude continue down in this market, hovering around 65 cents, with the British market quoted today at

Largest Airship Planned for Navy by Goodyear

AKRON, O., Feb. 17—The Goodyear-Zeppelin Corp., subsidiary of the Goodyear Tire & Rubber Co., announces it is prepared to start work at once on an airship of the type wanted by the U. S. Navy, if sufficient money is appropriated by Congress.

At the suggestion of Rear Admiral W. A. Moffett, chief of the Naval Bureau of Aeronautics, experts of the Zeppelin corporation have been planning a ship, designed to be the world's greatest aerial battleship. Plans have been guarded with secrecy until now, when the Government has consented to their publication in part.

The new air dreadnaught would have a 6,500,000 cu. ft. helium gas capacity, more than twice that of the Shenandoah; it would be 790 ft. in length, 135 ft. in

diameter, with motors developing 4,800 hp., and a speed of 90 miles an hour, with a cruising radius of 5,000 miles.

The ship is designed to carry half a dozen pursuit airplanes, with provisions for them to take off or land on the dirigible. All control cabins would be inside the ship, preventing accidents similar to that which destroyed the Shenandoah. Tilting propellers of a new design will help the ship to ascend or descend rapidly without loss of gas.

Pierce Adds Line of Custom Coaches

BUFFALO, N. Y., Feb. 15—Pierce-Arrow Motor Car Co. has brought out a line of custom-built coaches, comprising, in addition to the 2-door model, listing at \$3150, introduced less than a year ago, new 4-door, 5 and 7-passenger jobs, priced at \$3250 and \$3350, respectively, and a limousine coach at \$3450.

Announcement of the new coach line was made by President Myron E. Forbes to 500 distributors and dealers gathered here at the Hotel Statler for a sales convention. After the announcement, the doors of the ballroom were thrown open revealing an exhibition of the new cars. Sixteen models in a wide range of colors were on display.

The new bodies are designed and built by Pierce-Arrow and are said to be the first of their type in America. They do not replace but are an addition to other models, so that there are now 11 body types available on the Series 80 chassis. The exhibit was opened to the public this evening.

New Canadian Ford Prices Are Announced

DETROIT, Feb. 15—New prices of Ford models announced by Ford Motor Co. of Canada, Ltd., follow:

Coupe	e Old \$665	Change
Tudor\$695	755	\$ 60
Fordor 755	895	140
Runabout 410	395	15
Touring 440	435	5
Light Delivery, 435	420	15
Chassis 325	335	10
Truck	485	

Prices above on open models, chassis and trucks do not include starters, which cost \$85.

44 World's Seaplane Records Held by U.S.

NEW YORK, Feb. 8—In accordance with statistics recently compiled, on Dec. 1, 1925, the United States held forty out of eighty-seven of the official world's seaplane records. Of these forty records, the Army Air Service held twenty-nine, and the Navy, eleven. Since that time four more records were captured by the United States, when Lieut. George C. McDonald, flying a Loening Amphibian at Langley Field, on Jan. 23, broke the seaplane records for 100 kms. with 500-kg. pay load (1102 lbs.); 100 kms. with 250-kg. pay load (550 lbs.); 200 kms. with 500-kg. pay load (1102 lbs.); 200 kms. with 250-kg. pay load (550 lbs.).

Employment Gains Seen in Car Trade

U. S. Employment Service Says Outlook is Promising— Detailed Reports

WASHINGTON, Feb. 18—Opinion that the outlook for increased employment in the automotive industry "is bright" is expressed in the January employment survey over the United States contained in the official bulletin of the U. S. Employment Service, just made public here.

"The large forces engaged in the manufacturing of automobiles and accessories in December," says the report, "were maintained during January and the outlook for increased employment in this industry is bright."

Principal Centers Report

Following are concise reports of employment conditions in the principal automotive centers:

automotive centers:

Michigan, general: The automobile industry in this state has kept up a large production this season, stopping only a very short time for inventory.

Grand Rapids, Mich.: Small automobile accessory plants are working overtime. Two automobile body plants are working overtime, affecting about 2,000 employes.

Flint, Mich.: All automobile plants are working capacity but are not adding extra

Wisconsin, general: Full employment is reported in the automobile industry.

New Jersey, general: Activity in the automobile plants is showing a slight increase and preparations for a further increase in operations and employment are under way.

Fort Wayne, Ind.: A large manufacturing company here is planning further additions to its motor-truck plant, which will absorb about 300 mechanics within the next three or four months.

Ohio, general: Automobile plants are operating on a high level.

Dunlop Co. Publishes

Tire Development Story LONDON, Feb. 6 (by mail)—A lengthy explanation concerning the development of balloon and medium pressure tires has been published by the Dun-

lop Rubber Co.

Summarized, the statement announces the adoption of three classes of standard tires, viz., the balloon type, primarily for small cars; the medium pressure, primarily for cars of 14 hp. or over, and the high-pressure, as an alternative, for cars

of all sizes.

Martin-Parry's New Branch OMAHA, Feb. 16—The Martin-Parry

OMAHA, Feb. 16—The Martin-Parry Corp. announces the building of a new branch assembling plant here, which will open Mar. 1. It will be known as Plant No. 50, and will be fitted for assembling, mounting and servicing commercial bodies.

H. G. Vance, who has for the last four months been special sales representative of the corporation in Florida, becomes district sales manager of the Omaha zone.

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Rubber Exchange of N. Y., Inc., Opens

First Market to be Entirely Devoted to That Commodity—250 Members

NEW YORK, Feb. 16—The Rubber Exchange of New York, Inc., opened for trading yesterday at 31 William St. at 10 a.m. Membership of 250 was reported by President Francis R. Henderson, who added that this was the first market in the world to be devoted exclusively to rubber. The unit of trading was announced as 2½ tons, with deliveries in all of the twelve months, the same procedure as is followed on the New York Cotton Exchange.

Rubber contracts, with a market value in excess of \$500,000 changed hands in the first day's trading. Excited bidding was reported in the first hour's transactions when 64 contracts were recorded. Trading was confined to four months, March, May, July and December, with July showing a price range of 61.10 to 62 cents a pound.

In declaring the exchange open, President Henderson called attention to the fact that the world's production of rubber had grown from 53,890 tons in 1900 to 503,000 tons in 1925, the market value

last year running close to half a billion dollars.

Hours of trading are to be from 10 to 3, except Saturdays, when the exchange will close at noon.

The board of directors gave a luncheon at India House on the opening day.

This is the second rubber exchange to be opened here this year, the Cocoa & Rubber Exchange of America having started business Feb. 2.

Philadelphia Group Buys Bearings Co. of America

PHILADELPHIA, Feb. 18—The Bearings Co. of America, of Lancaster, Pa., has been purchased by a group of Philadelphia capitalists who are planning to expand the plant and increase the field of its endeavors.

Frank W. Germane, formerly of the Gillman Mfg. Co., and of the Timken Roller Bearing Co., will be president of the new organization with headquarters in the Bullitt Building, Philadelphia.

The personnel of the Bearings company will not be changed. Jack L. Straub will remain with the organization as vice-president in charge of operations.

Auburn's Record Month

TOLEDO, Feb. 15—January was the biggest month in the history of the Auburn Automobile Co., according to company officials, shipments exceeding by 20 per cent those those of June, 1925, which established the previous record. It was said that Auburn dealers had no stock of cars on hand and that deliveries were being made to retail buyers as

rapidly as cars were received.

This January record of production and shipments was established in spite of the fact that there was a shortage of the different models at various times throughout the month.

Nash January Sales Show Continued Gain

KENASHA, WIS., Feb. 16—Sales of Nash cars for 1926 will reach a volume far beyond the record-breaking totals rolled up in the last year, according to reports received from the Nash Motors Co. January has already set a mark 45 per cent greater than the same month a year ago, thereby establishing itself as the seventeenth consecutive month—with a single exception—in which Nash has marketed more cars than during the corresponding month of the previous year.

Were the Ajax sales figures for January added to the Nash figures, Nash would show an increase of 82 per cent over the number of cars sold during

January, 1925.

Paige-Jewett Car Exports Gain 100%

DETROIT, Feb. 16 — Paige-Jewett Motor Car Co. last week announced that its 1925 export business was 100 per cent better than that in 1924. This does not include business with Canada, it is said.

Europe and South Africa claimed the lion's share of the business for last year, H. M. Jewett, president of the company, said. Germany was the best individual customer. The demand there, it was pointed out, is now for the highest-priced models in each class.

American Bosch Magneto Holders Meet Apr. 13

NEW YORK, Feb. 18.—Stockholders of the American Bosch Magneto Corp. will act on the proposal to sell this company's starting, lighting and battery ignition system business to the Electric Auto-Lite Co. at the annual meeting, Apr. 13, in Boston.

Parish Corp. Opens Branch

READING, PA., Feb. 15—The Parish Mfg. Corp. has recently opened a 10-acre plant here for the manufacture of truck and bus frames. The new factory is fitted with all the latest appliances for such work. Howard E. Lewis is general manager.

Ford Branch Builds

ATLANTA, Feb. 8—The branch of the Ford Motor Co. here announces the recent awarding of contracts by the company at Jacksonville, Fla., for a 200 x 321 ft. addition to the company's assembling branch there, increasing the capacity of the branch by nearly 50,000 sq. ft.

Work on the new plant is to begin im-

Financial Notes

New York Stock Exchange Listings—The following were among issues admitted to the trading list of this exchange in the week ended Feb. 13:

Intercontinental Rubber Co., 313,524 shares of no par value capital stock, with authority to list 602,824 shares.

Chandler-Cleveland Motors Corp., 350,000 shares of preference stock, and 630,000 shares of common.

Miller Rubber Co., 261,940 shares of no par value common stock.

Nash Motors Co., 2,457,000 additional shares of no par value common stock.

Federal Motor Truck Co.—The income account of this company for the year ended Dec. 31, 1925, shows net income, before taxes, of \$1,234,799, compared with \$684,670 in 1924. Earnings per share on the capital stock, based on 200,000 shares, were \$6.17 in 1925, against \$3.42 in the preceding year. Sales in 1925 totaled about \$3,000,000 greater than in 1924, when they amounted to \$7,339,367.

The date of the annual meeting has been changed to the second Tuesday in March.

Hupp Motor Car Corp.—This company reports for the year ending Dec. 31, 1925, net profit of \$2,919,464, after depreciation, Federal taxes, new model expenses, etc., equivalent to \$3.19 a share (par \$10) earned on \$9,138,090 common stock. This compares with \$1,095,160, or \$1.19 a share, in 1924.

Total sales in 1925 amounted to \$43,847,198, as compared to \$32,320,706 in 1924, \$38,013,014 in 1923, and \$34,122,847 in 1922.

Fageol Motors Co. of California—This company reports net earnings, for the year ended Dec. 31 last, of \$310,124, after all charges, compared with \$350,518 in the preceding year. Gross sales were \$5,345,688 in 1925, against \$4,389,407 in 1924. Profit and loss surplus at the end of 1925 stood at \$511,142, compared with \$201,017 on Dec. 31, 1924.

Hood Rubber Co.—This company has declared quarterly dividend of \$1.00 on common, payable Mar. 31 to stock of record of Mar. 19.

Auburn Automobile Co.—Stockholders of record of Feb. 15 will be given the right to subscribe at \$65 a share for two new common shares for every three held in this company, bringing the increased outstanding stock to 100,000 shares. The privilege expires Feb. 25.

Akron Rubber Reclaiming Co.—Advices from Akron state that a special meeting of the stockholders of this company will be held Mar. 4 to vote on increasing the capital stock from \$590,000 to \$1,000,000.

Fisk Rubber Co.—It is announced that the Central Union Trust Co. has been appointed trustee for this company's 5-year 5½ per cent sinking fund gold notes, due Jan. 1, 1931.

Timken-Detroit Axie Co.—This company has declared a regular quarterly dividend of \$1.75 on preferred, payable Mar. 1 to stock of record of Feb. 20.

J. G. Brill Co.—This company reports, for the year ended Dec. 31, 1925, net profit of \$571,269, after depreciation and taxes, equal, after preferred dividends, to \$5.21 a share on the 48,102 common, compared with \$577,761, or \$5.34 a share in 1924.

World-Wide Boost of Car Sales Begun

N.A.C.C. Names Delegate to Melbourne Show As First Step in Program

NEW YORK, Feb. 16—"A car for every family" is the goal of a world-wide program resulting from the Second World Motor Transport Congress, held under the auspices of the National Automobile Chamber of Commerce, according to announcement from the headquarters of that organization today.

The first active step in the program is the invitation on the part of the Australian Motor Convention, inviting the United States to send a representative to confer with Australian representatives at the time of the International Automobile Show at Melbourne April 28.

Many Countries Invite U. S.

Other countries which have asked members of the automobile industry in the United States to join with them in this movement include most of the European and Latin-American countries.

Col. Charles Clifton, president of the N.A.C.C., will name at least three men to carry on the work outlined in this international work. Walter Schmidt is the first to be named. He has been appointed a delegate to attend the Melbourne show. At present he is a field representative of the N.A.C.C. He will take with him information on taxation, legislation, traffic, garaging, finance and sales plans, and will visit Hawaii, New Zealand, British Malay States, Burma, India, Ceylon, Persia, Syria, Egypt, East and South Africa, and will be gone in all about nine months.

Only Gardner Closed Models Made in January

ST. LOUIS, Feb. 18—The Gardner Motor Co., Inc., did not build any open cars in January and for the greater part of February. To date its production has been 100 per cent closed cars. However, it is now beginning to produce some phaeton models which are needed for export. It is stated the company's production on 6-cylinder cars is just a bit above normal, while on "8's" the supply is not nearly equal to the demand.

Production is not up to capacity yet, for the factory was closed down for some time for inventory-taking, and, since the resumption of activities, not sufficient time has elapsed for it to reach full strength.

White Corrects Dates

CLEVELAND, Feb. 18—The White Motor Co. announces that an error was made in the dates previously given out in connection with the stockholders meeting and the dates as of which stockholders of record would be entitled to the stock dividend of 20 per cent and

TAXES SINCE 1917 TOTAL ONE BILLION

WASHINGTON, Feb. 18—With the major portion of the war excise taxes about to be removed from the automobile industry, a recapitulation of the amount paid shows that the industry has paid since Oct. 3, 1917—the date the law became effective—a total of about one billion dollars.

Comparing this figure with the cost of the World War to the United States, the figures show that the cost was 300 billion or, in terms of comparison, the automobile industry paid one out of every 300 dollars of the cost.

The figures for fiscal years are as follows:

																		Total tax
1926	(f	r	8	t		6	1	n	10) :	s.)			0		\$ 79,105,818
1925																	۰	124,686,744
1924									0	۰							0	158,014,708
1923					۰	٠		0								۰	۰	144,490,489
1922				*	*	×	*	*	×						×			104,433,761
1921																		115,546,248
1920					0				0						0			143,922,791
1919								0	0								0	48,834,271
1918			0	0					0	0		0		0			0	23,981,268
Gran	10	1		T	0	t	a	1		0			0			0		\$943,016,098

the rights to subcribe for new stock.

The correct date for the meeting is March 19. The stock dividend and rights to subscribe, if authorized by the stockholders, will go to stockholders of record of March 25, 1926.

California S.A.E. Discusses Cooling

LOS ANGELES, Feb. 18—Engine-cooling, radiators and steam cooling were the subjects discussed at the February meeting of the Society of Automotive Engineers, Southern California Section. G. E. Dockeray, of the Eagle Radiator Mfg. Co., and Paul Zering, of the Cartridge Mechanical Works, spoke.

Eugene Power, superintendent of automotive equipment, the Union Oil Co. of California, was installed as president for the current year, succeeding Watt L. Moreland, vice-president, Moreland Motor Truck Co. Ethelbert Favary, consulting engineer, Moreland Motor Truck Co., was re-elected secretary.

Automobile Tax Decision

WASHINGTON, Feb. 15—A tax decision, of which automobile manufacturers may take advantage, was announced here recently by the Tax Appeals Board of the Treasury Department. The board holds that where machinery, used in the manufacturing business, is discarded as the result of changing business conditions and improvements, the taxpayer may deduct in such year the difference between the depreciated cost and the salvage value.

\$80,000,000 Federal Road Aid Needed

Fight Rages Around Dowell Bill Providing for Highway Construction

WASHINGTON, Feb. 18—Thomas P. Henry, president of the American Automobile Association, and Frank Page, chairman of the North Carolina state highway commission, as two principal witnesses this week at the opening of hearings on the Dowell bill, sounded the keynote in a vigorous campaign to be waged for the enactment of the measure making \$80,000,000 a year available in 1928 and 1929 for rural road construction.

Mr. Page said a Nation-wide reduction in road building would be the effect next year if Congress did not pass the Dowell Federal aid bill. Last year, Page said, 30 states exceeded their roadbuilding program by reason of the \$75,000,000 Federal aid fund, which was granted.

President Henry Decries Cuts

Striking at the movement to cut down Federal aid in road building, given impetus by the action of the Senate in voting complete repeal of all automotive taxes, President Henry, on behalf of the 770 affiliated A. A. A. clubs, took occasion to say:

"It is a magnificient conception that interstate connecting highways eventually will link every city of 5,000 population or over, that the great coastal highways used for transportation of mails and merchandise in interstate traffic will be connected with highways constituting our second, third, fourth and fifth lines of defense, if needed."

DuPont Co. Announces New Leather Substitute

WILMINGTON, Del., Feb. 17—The Fabrikoid Division of E. I. du Pont de Nemours & Co. announces Nemoursa, a new coated fabric said to represent a distinct advance in manufacture of leather substitutes, as it is designed to overcome the limitations of use of the earlier development and to increase the uses of coated fabrics.

Nemoursa is produced to meet the need for a water-proof, scuff-proof, enduring material with the depth, sheen and luster of the finest materials. The new material is adapted for automobile upholstery and is manufactured in delicate and striking colors.

Ford Protects Dealers

DETROIT, Feb. 18—As a means of protecting its dealers from losses on closed cars in stock when the new reduced prices went into effect, the Ford Motor Co. has announced it will bill dealers for open cars during February at the old price.

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Marmon Reports Net of \$2,250,000

INDIANAPOLIS, Feb. 17—Nordyke & Marmon Co.—the old company, before segregation of its automotive interests as the Marmon Motor Car Co.—reports for the year ended Dec. 31, 1925, net, before Federal taxes, of approximately \$2,250,000.

The balance sheet as of Dec. 31, 1925, shows cash, \$1,528,139 and motor car drafts not discounted, \$517,972. Notes payable were \$1,350,000, which amount was reduced by \$450,000 in January,

1926.

Ford Motor Co. Buys 1400-Acre Flying Field

DETROIT, Feb. 15—The purchase of 1,400 acres of land near Maynard, Ind., to be used as a flying field has been announced by the Ford Motor Co.

The property is located on the Illinois-Indiana boundary line, 25 miles southeast of Chicago, and will be utilized as the Chicago terminal of the Ford air transport service, it was said at company's offices at Dearborn.

In the past the company's planes have been using the Government flying field at Maywood, Ill., northwest of Chicago. Flyers have complained, it was said, that the smoke and fog that surrounds Chicago has made landing difficult.

Reorganization Plan of Autocar Complete

NEW YORK, Feb. 15—Further details of the reorganization of the Autocar Co. of America, announcement of which was made in these columns last week, have been worked out by the directors.

The board of directors has approved the issuance of 70,000 shares of no par value \$7 cumulative prior preferred; 6,015 shares of \$100 per value 8 per cent preferred; 145,000 shares of \$20 par value Class A common, convertible into Class B common share for share, and entitled to non-cumulative preferred dividends of \$2 annually, and 70,000 shares of \$1 par value Class B common.

To Offer Evans Stock

NEW YORK, Feb. 15—A New York banking group has purchased for reoffering to the public, a block of the capital stock of E. S. Evans & Co., Inc.,
manufacturer of patented devices for shipping automobiles.

Chevrolet Output in January 44,000

DETROIT, Feb. 15—Chevrolet passenger car and truck production for January was about 44,000, nearly three times better than the output for January, 1925, making it the best January production in the history of Chevrolet.

Under the tentative production schedule, the company will build approximately 51,000 units during February. According to W. S. Knudsen, this will be twice the number produced in February of last year.

Dealers reporting to the factory say that they are delivering cars to buyers instead of stocking against the requirments of spring business.

Lambert Tire Near Capacity

AKRON, Feb. 4—Following a short period of dullness the Lambert Tire & Rubber Co. is operating at near capacity and sales are reported as satisfactory. The company produces a cushion tire for trucks, buses and some passenger car service.

Developments of the Week in Leading Motor Stocks

NEW YORK, Feb. 18-When the public withdraws from active speculative operations in the stock market, and transactions represent only the attempts of one speculator to buy stocks for resale at a profit to another speculator, the stage is set for a readjustment of the speculative position. The process continues until professionals find it increasingly difficult to obtain the sought-for profit, and, unless some outstanding development affecting fundamentals occurs, we find the professionals turning from the buying side to the selling side of stocks. This is what has occurred in the last week. The change would not have been of any particular significance, had it not been that several overexploited specialties virtually collapsed, thereby greatly disturbing public confidence in the speculative structure. Liquidation resulted, and continued through the early days of the week.

The anomaly of declining prices coupled with the announcement of increased dividends and favorable earnings statements is an anomaly only to those unfamiliar with speculation. The stock market had wavered before the General Motors Corp. announced the increase in its dividend rate and record earnings, and the White Motor Co. its stock dividend and increase of capital. The "good news" of the settlement of the anthracite strike and of the tax reduction sanctioned by the U. S. Senate merely afforded an opportunity for selling by professionals.

At such times one is apt to hear more of unfavorable conditions than at times when prices are advancing and this was true this week. Weakness in the scrap steel market was taken to herald a substantially lower price level for steel Earning statements coming to hand show that the net profits of most corporations for 1925 were due to a small per-unit profit and high oper-In consequence, there is a tendency at the moment to question whether or not production generally can be maintained at the high rate of last year, and, if it is not, what effect it may have upon earnings. Such discussion is not unusual at this season of the year when building construction is in relatively small volume. With the coming of spring and the increased activity in the building trades and in the automotive industry, we will hear less of the profits per ton of steel and more of the volume of bookings.

General Motors Earnings High

The financial community was agreeably surprised by the earnings statement of General Motors. While it had been known that net profits would be large, a total of \$115,980,099 exceeded the most optimistic estimates. Particularly gratifying were the figures for the final quarter which exceeded \$32,000,000, a new high record in quarterly net earnings. It is manifest that the corpor-

ation can easily afford to pay the new quarterly rate of \$1.75 per share on the common stock, which, with dividends for the preferred, will call for about \$11,000,-000 quarterly, while the corporation has seemingly demonstrated its ability to earn consistently 2½ times this amount.

Action of the directors of the White Motor Co. in declaring a 20 per cent stock dividend and offering new stocks to present holders at \$50 per share was received with a peculiar zest. It had been gossip for some time that control of this company rested largely with a New York group. Whether the report was true or not will never be known, but the announcement of the increase in stock was taken to indicate that, if actual control did not rest here, a sufficient amount of stock was held to jeopardize the control of the Cleveland interests, and the increase in stock was for the purpose of restoring that control beyond question.

Not without interest was the statement of Stewart-Warner showing that that corporation has charged out \$11,507,428 from surplus, reducing the value placed on patents and writing down goodwill to \$1. The corporation reports for the year net income, after charges and taxes, of \$7,544,089, equal to \$12.57 per share on the outstanding 599,990 no-par shares of stock. This compares with \$3,501,107, excluding earnings of the Bassick-Alemite Corp., or \$7.30 a share on the 474,990 shares a year ago.—H. H. S.

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Paris to Hold Two Automobile Shows

Lapse of 2 Years Since Last Exhibit Adds Interest to Events

PARIS, Feb. 6 (by mail)-Paris will hold two automobile exhibitions in the Grand Palais next fall. Oct. 7-17, passenger cars, motorcycles, bicycles and accessories will be shown, and, after an interval of six days, the doors will be thrown open again, Oct. 23-31, for a truck, industrial engine and machine tool exhibition. The two shows are necessary because of the impossibility of securing sufficient space in a single hall for an exhibiton uniting the entire automobile industry. The organizing committee has secured an option on the Grand Palais for 5 years and is about to spend 1,500,000 francs in improvements, thus indicating that the show will be annual until 1930.

Many Novelties to be Shown

Last year, owing to difficulty in securing possession of the Grand Palais and the considered undesirability of other buildings, the French industry was deprived of an automobile exhibition. Indications are that the coming show will be of more than usual interest both from a technical and commercial standpoint. There is an accumulation of two vears' experimental work and among the mechanical novelties will be an increased number of 6-cylinder engines, commercially-developed superchargers, improved transmissions and steering gears.

American firms are expected to occupy a strong position in the coming French show. Applications for space have to be filed with the organizing committee not later than Mar. 31, and positions are awarded by drawing of lots. Under the new rules, it is permissible to indicate the price of exhibits, but a uniform size price-card must be employed. Henry Cezanne is again Paris show manager.

Driveaway Method is Popular With G. M. Buyers

DETROIT, Feb. 15—The popularity of the driveaway can be seen in the number of cars driven away from different General Motors units in 1925. Figures recently released by General Motors Corp. show that 836,749 passenger cars, consisting of Chevrolet, Oldsmobile, Oakland, Buick and Cadillac, were sold. Of this number, approximately 209,939 cars were driven away, the remainder being shipped by railroads.

Freight charges which the General Motors paid upon the cars and trucks shipped last year, and the material from which these automobiles were made, amounted to more than \$57,000,000.

The number of freight cars required to bring the raw material into the General

DODGE PRODUCTION UP TO 1500 DAILY

DETROIT, Feb. 16—Production of Dodge Bros., Inc., passenger cars and trucks reached the 1500 mark yesterday. This is the greatest daily production so far in the history of the company, and is in line with the recently announced intention of the company to produce 2000 units a day. Every effort is being made to meet the dealer demand.

Closed car production is greatly in excess of the open and commercial type. In the new production schedule, two parallel assembly lines are being used, each 710 ft. long, and 45 cars can be accommodated on each at the same time, with cars moving 10 ft. a minute. To move these lines, two conveyor chains, 1420 ft. long and weighing 5 tons, are employed.

Motors plants and carry away the finished automobiles for the last three years is shown below:

Total Carloads Including

Less-Than-Carload Freight Charges

Willys-Overland Men Discuss Parts Methods

TOLEDO, Feb. 18—Upward of 75 Willys-Overland parts sales managers from the United States and Canada attended their annual convention held here yesterday and today.

General Sales Manager L. G. Peed, of Willys-Overland, Inc., welcomed the visitors in the opening address. Parts methods and policies were explained by General Parts Manager A. Benhoff. Service Director W. R. Webster explained the role of the parts department and its salesmen in the servicing problem of the industry.

Morris Denies Reports

LONDON, Feb. 15—W. R. Morris, governing director of Morris Motors, Ltd., says that the recent statements published in prominent British newspapers and cabled overseas asserting that his company was to be converted from a private to a public concern, having £4,000,000 capital, are incorrect. Mr. Morris admitted that a plan was under consideration but withheld details.

Star Sales Up 69%

NEW YORK, Feb. 15—Colin Campbell, vice-president, Durant Motors, Inc., reports that factory sales of Star cars in January increased 69 per cent over the same month last year.

Car Makers to Have Proving Grounds

Packard and Studebaker Purchase Large Tracts for Development

DETROIT, Feb. 17—Five hundred acres of land, located 2 miles south of Milford, Mich., have been purchased by the Packard Motor Car Co. for an automobile proving-ground.

While this stretch of land is one of the most hilly in Michigan, there is a large flat tract which will be developed to form a 2-mile speedway. This track, which is to be only ½ mile shorter than the Indianapolis course, will have all turns highly banked so that cars of the fastest type may be driven "fullout."

This development, together with the airplane landing field adjacent to the city of Detroit, also owned by the Packard Motor Car Co., will enable this organization to test its products on its own private grounds.

SOUTH BEND, IND., Feb. 16—The Studebaker Corp. of America has purchased a section and a quarter of land 12 miles from its plant here, on which is being laid out proving and experimental grounds.

In addition to rough roads, through sand and mud, up and down hills, the Studebaker test ground has a straightaway track of 1¼ miles, 20 ft. wide, to study pick-up and acceleration, rolling friction and fuel economy problems. A 3-mile loop, with a 20-ft. driveway for endurance tests at sustained high speed will permit driving up to 75 miles an hour.

French Tariff Increase Not to Hit Automobiles

PARIS, Feb. 5 (by mail)—Automobiles will probably not be affected by the proposed increase of 30 per cent on French import duties, about to be discussed by Parliament. According to the best information, the intention is to increase all the specific duties by 30 per cent to compensate for the decreased value of the franc. Ad valorem duties, however, will not be affected, and, as automobiles are imported under this heading, there will be no change in the present 45 per cent duty, plus the 12 per cent luxury tax.

Edmund & Jones' Net Up

DETROIT, Feb. 17—Edmund & Jones Corp.'s net income for the year ended Dec. 31, 1925, was \$257,111, or \$4.38 on 50,000 no par common, compared with \$254,983, or \$5.29 a share, on 40,000 common in 1924.

Sales in 1925 were \$5,056,232, against \$4,593,024 in 1924, and surplus gained from \$51,755 to \$64,068.

V. E. Jones has been elected a director, to succeed E. E. MacCrone, resigned. Other directors were re-elected.

Men of the Industry and What They Are Doing

Yellow Mfg. Sales Corp. Announces Promotions

The Yellow Mfg. Sales Corp. announces the appointment of V. G. Phillips as sales manager in charge of the new T-2 Yellow Knight truck sales, with headquarters at the GMC general offices in Detroit. Mr. Phillips has been with the company for several years past as assistant sales manager of the motor coach division.

The corporation also announces the advancement of Mark A. Smith, formerly district representative in Philadelphia, to the position of assistant sales manager of the motor coach division. In his new capacity, Mr. Smith will supervise the sales activities of the various district representatives. He will be associated with H. E. Listman, vice-president of the company, in the Chicago office.

"Chassis Elucidators" Formed

The "Chassis Elucidators" is the name of the latest organization to be formed among representatives of the different automobile companies. The organization is composed of representatives of the various companies which showed cutaway chassis at the Chicago automobile show. The organization was formed to promote closer association and friendlier feeling towards those engaged in this line of work and to further cleaner business methods.

Officers of the organization are: E. Phil Merrill, Cadillac Motor Car Co., president; Lee R. Bryant, Willys-Overland, Inc., vice-president; E. J. McMullen, Olds Motor Works, secretary and general manager, and G. C. Sheffield, Wills Ste. Clair, Inc., treasurer.

Herbig Sales Manager

Edwin T. Herbig, formerly of General Motors Corp., with headquarters at Pontiac, Mich., has been appointed sales and publicity manager of the American Bus & Truck Co., Springfield, Ohio, it was announced by Gen. C. C. Jamieson, chairman of the board. Mr. Herbig's home is at Dayton. He took up his new duties Monday at the Springfield plant, formerly the Kelly-Springfield Motor Truck Co.

Heintz Goes Abroad

Samuel Heintz, former chief engineer of the Republic Rubber Corp., Youngstown, Ohio, and for the last six months development engineer at Boston for the Hood Rubber Co., sailed last week for Liverpool to study truck tire developments abroad. He will spend some time in Havre, France, and expects to return to this country in April.

Heldt Appointed to Committee

P. M. Heldt, engineering editor of Automotive Industries, has been appointed one of the independent experts on the sectional committee for the Standardization of Gears of the American Engineering Standards Committee.

REMY CLUB DINES PARTING OFFICIALS

Members of the Remy Engineering Club to the number of 150 last week gave a dinner in Anderson, Ind., in honor of Norman R. Kettering and John Irwin, both of Anderson, who will leave soon for Australia, where Mr. Kettering will have charge of the building of 5 factories for the General Motors Corp.

Mr. Kettering slected Mr. Irwin as his assistant in the work. Mr. Kettering has been with the Remy company for some time, and was promoted recently to be in charge of foreign building construction for the General Motors Corp., of which the Remy company is a subsidiary. He recently completed the building of Plant No. 4 for the latter company. Mr. Irwin was transfered recently to Plant No. 3 at Muncie.

Fordney Elected President

J. W. Fordney, formerly chairman of the Ways and Means Committee of the U. S. House of Representatives, who has been a director of the Ruggles Motor Truck Co. for the last two years, has been elected president of the company at a meeting of the board of directors recently held at Saginaw, Mich.

The following directors were elected for 1926:

J. W. Fordney, A. E. Sleeper, C. T. Kerry, John Ryan, F. W. Ruggles, W. C. Hill, M. N. Brady, J. W. Symons, H. R. Wickes, C. W. Stiver, E. L. Smith, and R. J. Goldie.

Fisher and McNaughton on Trip

Lawrence P. Fisher, president, and Lynn McNaughton, vice-president, of the Cadillac Motor Car Co., left Detroit, Feb. 14 for an extended tour through the West and South for the purpose of supplementing impressions of the 1926 automobile market gained at the New York, Detroit and Chicago shows. They will be on the road for a period of four or five weeks, will attend the shows at Kansas City and Los Angeles and will visit San Francisco, Phoenix, El Paso, San Antonio, Dallas, Houston, New Orleans, Birmingham, Jacksonville, Miami and other points in the Middle West, Southwest and South.

Faulkner and McDarby Promoted

Roy Faulkner has been appointed vice-president in charge of sales of the Auburn Automobile Co., and N. E. McDarby has been made sales manager of that company. For several months Mr. McDarby has been assistant sales manager.

Graybar Electric Co. Names New Executives

George E. Cullinan has been appointed vice-president in charge of sales and a director in the Graybar Electric Co., New York. The company was recently organized to succeed the supply department of the Western Electric Co.

The promotion of Leo M. Dunn to a vice-presidency is also announced by the company. Mr. Dunn will have charge of merchandising and accounting.

Mr. Cullinan has had twenty-four years' experience with the Western Electric Co., in which time he has risen from a clerical position to general sales manager of the supply department.

Mr. Dunn has also been for many years associated with the Western Electric, rising to the position of general merchandise manager of the supply department in 1923

Shortal, Brooks, Russel Appointed

W. G. Shortal, for many years connected with the sales department of the Pierce-Arrow Motor Car Co., has been appointed manager of the territorial division.

James Brooks, formerly with the American Chain Co., is now in charge of eastern New York and Connecticut for the Pierce-Arrow Motor Car Co., and A. M. Russel is in charge of the mid-western territory.

O'Hara Succeeds Kirk

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J. J. O'Hara has succeeded J. N. Kirk as eastern district manager of the automotive division of the Columbus-McKinnon Chain Co., Columbus, O., maker of Dreadnaught tire chains. For two years Mr. O'Hara has done sales promotion work for the company.

Dodge Joins Haartz Co.

F. N. Dodge has resigned as sales manager of Safe-T-Stat Co., Inc., Philadelphia, manufacturer of engine heat indicators, to join the selling force of J. C. Haartz Co., New Haven, Conn., manufacturer of top materials.

Herzberg Vice-President

Hinson Mfg. Co., Waterloo, Ia., announces the appointment of Paul J. Herzberg as vice-president and director of sales.

Weller Elected to Board

J. H. Weller, for the last four years factory manager of the Gray Mfg. Co., has been elected to the board of directors of that company.

Metzger Succeeds Warner

William E. Metzger has succeeded H. J. Warner as a director of the Federal Motor Truck Co., it is announced.

GMAC \$50,000,000 Loan Overbought

Striking Manifestation Given of Confidence in Automotive Securities

NEW YORK, Feb. 18—Heavy oversubscriptions marked the successful floating of \$50,000,000 in 5 per cent gold notes of the General Motors Acceptance Corp. These were offered yesterday by J. P. Morgan & Co., the National City Co., the Bankers Trust Co. and the First National Bank, at 96.19 to 100 and interest, yielding from 5 to 5.50 per cent.

The books were closed shortly after they were opened, a striking manifestation of the confidence placed in automotive securities by the investing public.

The proceeds of the loan are to be used to fund a portion of the company's borrowings and for additional working capital.

The notes are due \$5,000,000 annually March 1, 1927-1936, but are redeemable at a premium of ½ of 1 per cent for each unexpired six months.

Michelin to Make Tires in Britain

PARIS, Feb. 4 (by mail)—Michelin tires will be manufactured in Great Britain if a scheme now under consideration is carried through. The French tire manufacturer has secured an option on 120 acres of land at Stockton-on-Tees, England, and proposes to erect a factory which will begin producing in one year and be in full production in five years' time. In addition to his main works at Clermont-Ferrand, Michelin has a factory at Turin, Italy, through which he supplies the Italian market, but his policy up to the present has been against decentralization.

Last week Michelin paid off 500 hands at his Clermont-Ferrand works, but this is believed to be due not to any reduction in demand, but in order to keep manufactured stocks as low as possible under the present high cost of rubber and the unstable condition of the franc.

New House Organ Out

NEW YORK, Feb. 18—Linde Air Products Co., 30 E. 42nd St., New York City, has combined its two monthly papers, "Oxy-Acetylene Tips" and "The Linde Oxwelder," into a single publication, the new "Oxy-Acetylene Tips." The magazine now includes, for the executive, articles describing how oxwelding has penetrated entire industries; for the engineer, data on the strength of welds and designs of joints; for the operating superintendents, articles on welding in production and procedure control; for welders, information about work, noteworthy for its size, ingenuity or novelty;

SHOWS BIG VOLUME OF UPKEEP TRADE

NEW YORK, Feb. 18—Speaking at the Fourth Annual Banquet of the Automotive Service Association at the Hotel Astor here tonight, David Beecroft, vice-president of the Chilton Class Journal Co., presented figures showing that during 1925 more than 53 per cent of the automotive dollar was spent for maintenance work, parts and accessories.

This branch of the automobile industry did a volume of business of more than \$2,000,000,000 last year, said Mr. Beecroft, and the increase in cars in operation this year should raise the 1926 total to \$2,500,000,000.

and for the plant repairman and beginner, descriptions of the technique of welding and care of equipment.

Chevrolet's Daily Output Now 2565

DETROIT, Feb. 18—The Chevrolet Motor Co. is now operating on the greatest monthly production schedule in its history. The plant at Flint, which has been running at a daily rate of 2100, has increased its hourly production to 135, or 2565 a day. This is according to an announcement by W. S. Knudsen, president.

Mr. Knudsen states that the increase is due to the continued demand for the cars at the reduced prices.

Tregenza Vice-President

CHICAGO, Feb. 18—At a meeting of the board of directors of the Chicago Fuse Mfg. Co. here on Monday, A. E. Tregenza, who has been assistant to the president, was elected vice-president in charge of sales.

Mr. Tregenza, before coming to the Chicago Fuse Mfg. Co. in 1924, was general sales manager of the Economy Fuse & Mfg. Co. for 12 years, and previous to that was with the Nernst Lamp Co. as salesman and later assistant district manager.

Gardner Promotions

ST. LOUIS, Feb. 18—The Gardner Motor Co., Inc., has announced the promotions of Halsey Dunwoody and L. C. Freeman to positions as vice-presidents of the company. Mr. Dunwoody will be in charge of sales and Mr. Freeman will be in charge of production, as well as chief engineer.

Mr. Dunwoody has been in business in Paris, France, for many years, and during the war was a colonel in the Air Service of the U. S. Army in charge of

Highway Safety Conference Mar. 23

Federal, State and Other Officials to Discuss Traffic Problems

WASHINGTON, Feb. 15—The National Conference on Street and Highway Safety has been called to meet in this city March 23, 24 and 25, according to an announcement recently made by Secretary of Commerce Hoover. The Governors of the states have already been invited by President Coolidge to send delegations representing their respective states.

In addition to these state delegations, the conference will include Federal, state and city officials, representatives of railroads, street railways, insurance companies, automobile manufacturers, wholesalers and retailers, organized labor, commercial and trade organizations, organized motorists, the public, safety councils, women's and welfare organizations, engineers and educators.

Casing and Tube Exports Increase

WASHINGTON, Feb. 15—Total Canadian exports of pneumatic casings for automobiles and cycles numbered 912,-265 in 1925, while United States exports of automobile casings numbered 1,769,-677, it is announced here by the rubber division of the Commerce Department.

Canadian exports of inner tubes numbered 1,011,865, while United States exports numbered 1,617,073. The combined American exports reached 2,681,942 casings and 2,628,938 inner tubes in 1925, an increase of 39 per cent in casings and 44 per cent in inner tubes over 1924.

The remarkable and continuing growth of Canadian exports of rubber products may be visualized from a consideration of the fact that in 1922, their total value was only \$6,247,381; and in 1923, \$8,746,033, as compared with \$10,069,206 in 1924 and \$17,135,892 in 1925. In other words, from 1922 to 1925 the value of exports increased 174 per cent, the net value increase being \$10,888,511.

Ricker to Officiate at Miami

MILWAUKEE, Feb. 18—Chester S. Ricker, director of advertising and consulting engineer with the Waukesha Motor Co., has been appointed director of timing and scoring for the first race on Feb. 22, on the new board automobile speedway at Fulford, Miami, Fla.

Mr. Ricker has had charge of the timing and scoring department at the Indianapolis Motor Speedway for the last 14 years, and for five years has directed all the major events of the National Power Boat Association and National Aeronautical Association so far as timing and scoring are concerned.

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S.A.E. Sections Talk on Timely Subjects

Oil Purifiers, Motor Buses, Sleeve Valve Engines Discussed

INDIANAPOLIS, Feb. 15—The oil purifier and crankcase dilution meeting of the Indiana Section, S. A. E., held last Friday night, brought out the best meeting held so far this season by the section.

Three papers were presented on the general subject by Ralph H. Skinner, of the Skinner Automotive Devices Co., Inc. of Detroit; Col. Wm. Guy Wall, consulting engineer of Indianapolis and creator of the Three-Way oil purifier; and Jos. C. Coulombe of the fuel feeding and oil filter department of Byrne, Kingston & Co., Kokomo. The discussion was of the rapid-fire sort, bringing out many points about the various devices and the general problem. John A. C. Warner, from S. A. E., headquarters, was present and made a few remarks on the activity of the Hoosier section.

Nominations Presented

The section's nominating committee presented the names of those who will assume command next year, and the nominations were voted closed when the report was made by Col. Wall of the committee. Ralph R. Teetor, chief engineer, Indiana Piston Ring Co., Hagerstown, is nominated for chairman; George T. Briggs, who is now chairman, vice-chairman; Charles A. Trask, treasurer, and Raymond F. Buckly, secretary.

Announcement was made that at the next meeting, to be held Mar. 11, A. J. Scaife, chief engineer of the White Co., will present a paper on bus development.

N. Y. Section Meets

NEW YORK, Feb. 18.—At the February meeting of the Metropolitan Section of the Society of Automotive Engineers, held at the Building Trades Club tonight, the subject of motor buses was discussed by F. Van Z. Lane, engineer

Coming Feature Issues of Chilton Class Journal Publications

March 1—Chilton Tractor & Equipment Journal—Highway Number.

May—Automobile Trade Journal—Small Town Market Issue.

May 7—Motor Age—Sales and Service Reference Number.

in charge of bus-planning for the Board of Transportation of New York City, Dean J. Locke, staff engineer for the vice-president in charge of railway operation of the Public Service Railway of New Jersey, Alexander Shapiro, temporarily located in Washington in connection with the acquisition by the North American Co. of a bus system operating in the District of Columbia, and Lewis P. Kalb, assistant chief engineer of the Continental Motors Corp.

The annual election of officers will be held Apr. 15, and the nominating committee will complete its work about Feb.

Heldt Reads Paper

DAYTON, O., Feb. 15-A well-attended meeting of the Dayton Section of the S. A. E., was held at the Engineers Club here last week, at which P. M. Heldt, engineering editor of Automotive Industries, read a paper on sleeve valve engines. Both the Knight type and the single sleeve valve engine were covered in the paper. In the discussion following the reading of the paper, several members gave their personal experiences with sleeve valve engines. It was brought out, for instance, that it is quite possible to air-cool double sleeve valve engines, as this has been done in farm lighting set engines.

At a dinner preceding the meeting, John A. C. Warner, manager of the S. A. E. meetings and sections department, gave a review of the annual meeting in Detroit.

Rim Output Figure Gains in January

2,026,688 Approved This Year Compared With 1,808,055 in 1925

CLEVELAND, Feb. 15—January rim production figures, just made public by the Tire & Rim Association of America, Inc., together with comparative figures for January, 1925, for principal sizes, are as follows:

Size		Jan.	Jan.
Clincher	Rims	1926	1925
30 x 3 1/2		372,556	697,702
Balloon	Rims		
28 x 3 1/2		787,436	177,413
28 x 4		200,876	170,599
29 x 4		189,521	68,503
30 x 41/2		159,294	72,730
30 x 5		16,304	8,626
31 x 5		27,164	53,032
High P	ressure	e Rims	
30 x 3 1/2		16,301	96,933
32 x 4		6,715	20,405
32 x 4 1/2		47,505	85,479
Truck 2	0"		
30 x 5		48,384	48,429
Truck 2	24"		
36 x 6		7,047	7,092

Total rims inspected and approved in January, 1926, amounted to 2,026,688, as compared with 1,808,055 in the corresponding month last year.

German Car Show Seeks American Exhibitors

WASHINGTON, Feb. 15—The automotive division of the Commerce Department has just received advertising literature in connection with the International Motor Car Show to be held in Frankfort, Germany, Apr. 3-14. The authorities in charge of this exhibit have expressed an interest in the display of American cars.

It is announced that interested firms may obtain information regarding the cost of space and the rules governing this exhibit upon application to the Division by referring to Exhibit No. 417.

Calendar of Coming Events

SHOWS

- Feb. 15-Mar. 15-International Automobile Show, Copenhagen, Denmark.
- Feb. 20-28 13th Annual International Agricultural Exhibition, Brussels, Belgium.
- Apr. 3-14 International Motor Car Show, Frankfort-on-Main, Germany.

CONVENTIONS

- Feb. 24—Motor Truck Industries, Inc., of America, Detroit.
- Mar. 23-25—National Conference on Street and Highway Safety, Washington.

- May 13-15—American Gear Manufacturers Association, Tenth Annual Convention, Book-Cadillac Hotel, Detroit.
- June 14-19 Automotive Equipment Association, Mount Royal Hotel, Montreal, Canada.

RACES

- Feb. 22 300-mile race, Fulford, Fla. May 1 — Races at opening of new Speedway, Atlantic City.
- May 30-31 500-mile race, Indianapolis.
- June 12-13 Rudge-Whitworth 24hour stock car race, Le Mans, France.

S. A. E. MEETINGS National

- June 1-4—Semi-annual meeting, French Lick Springs, Ind.
- Mar. 25-26—Annual tractor meeting in cooperation with American Society of Agricultural Engineers, Chicago.

Sectional

- Feb. 23—Buffalo Section: Statler Hotel, Buffalo, 8 P. M. Subject, Progress in Airplane Engine Design, by Arthur Nutt.
- Feb. 25 Detroit Section: General Motors Building, Detroit, 8 P. M.; dinner 6.30 P. M. Subject, Airplane Engine Maintenance, by Lieut. Cyrus Bettis.